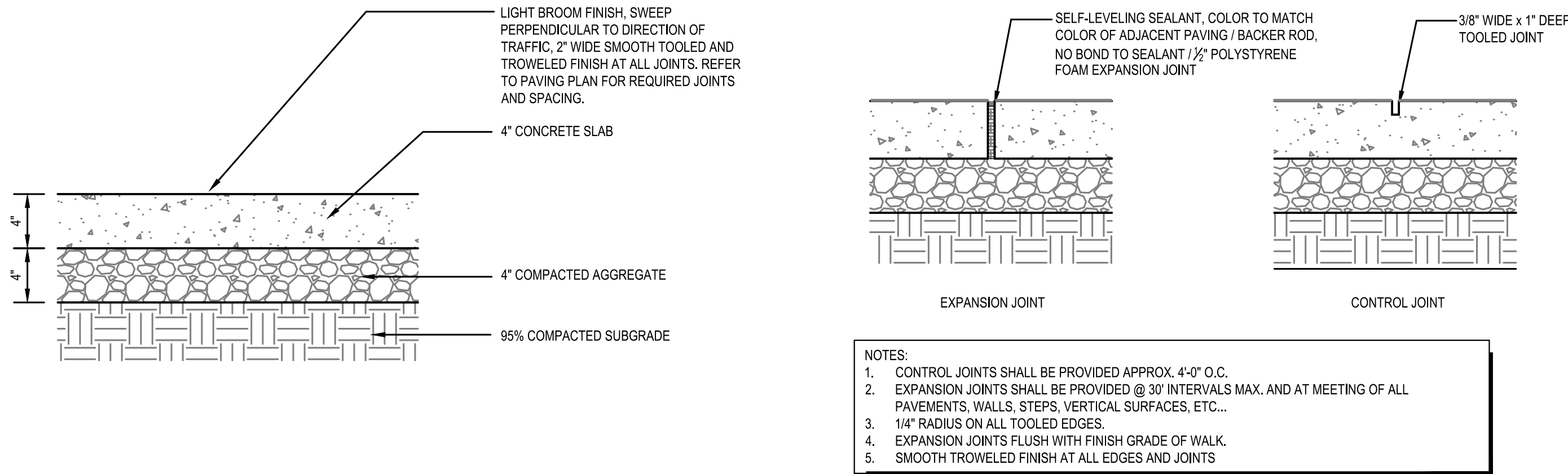
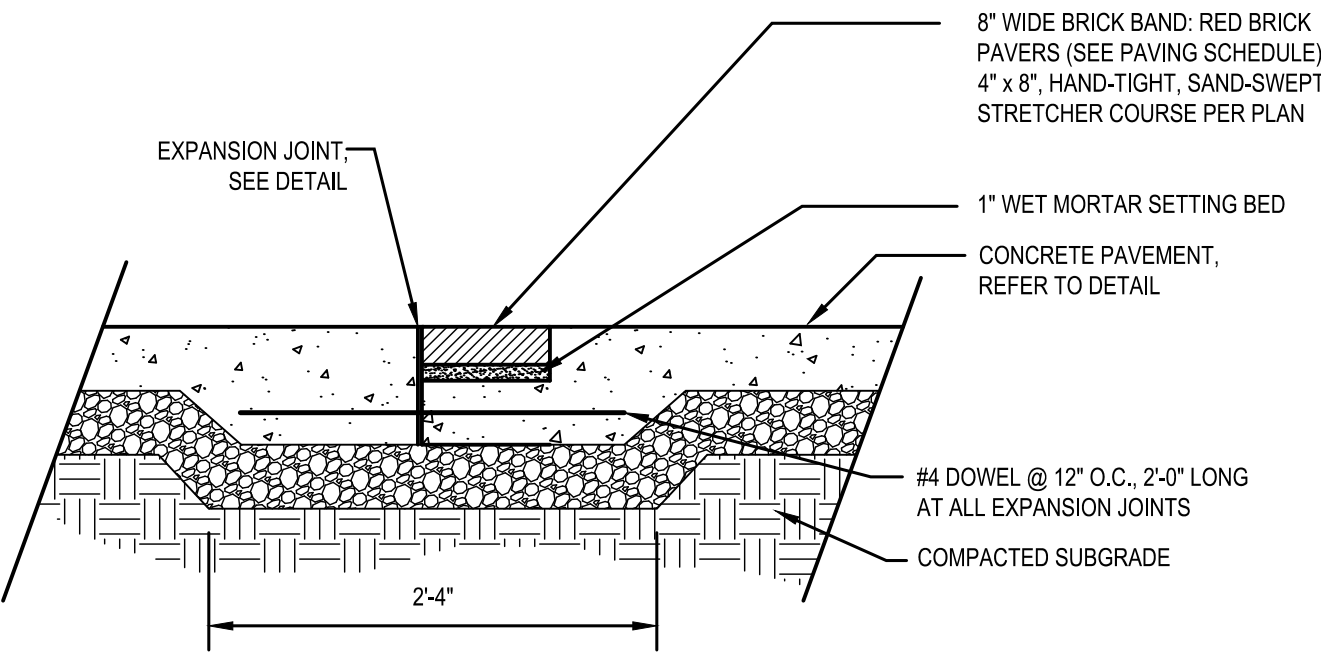


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|--|--------------------|------------------------|
| ARLINGTON COUNTY, VIRGINIA DEPARTMENT OF ENVIRONMENTAL SERVICES | | |
| LANDSCAPE DETAILS COLUMBIA PIKE - ROUTE 244 COLUMBIA PIKE - MULTIMODAL STREET IMPROVEMENTS SEGMENT A S. OAK ST. TO S. ORME ST. | | |
| SCALE: | HOR. N/A VERT. N/A | SHEET: A14.3 of A14.11 |
| | | |

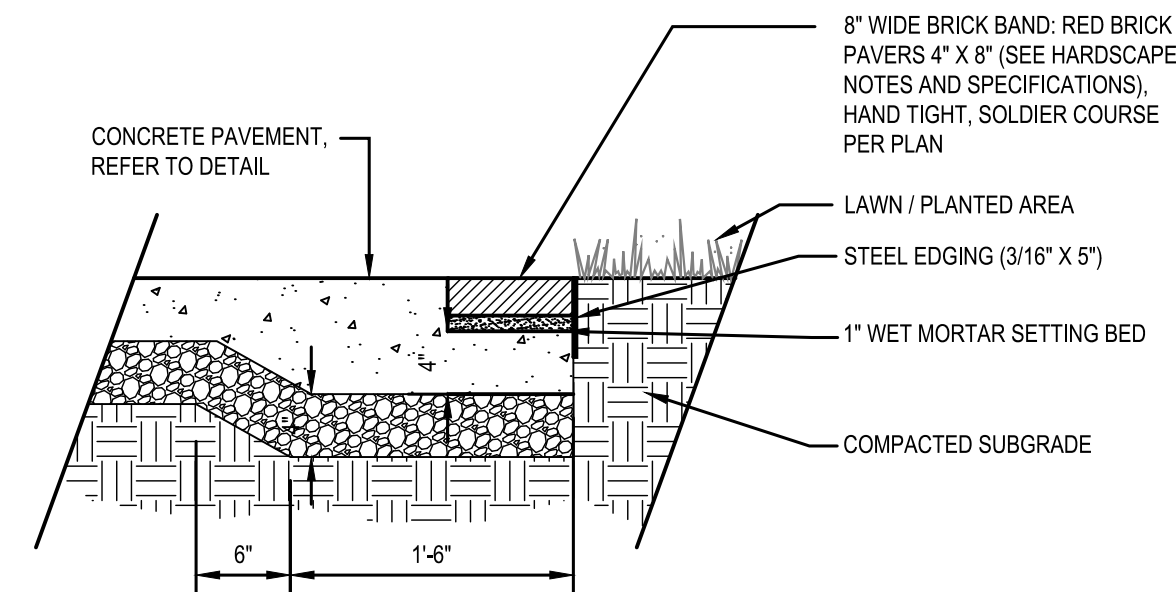


1 CONCRETE PAVEMENT (SIDEWALKS)
Scale: 1 1/2"=1'-0"

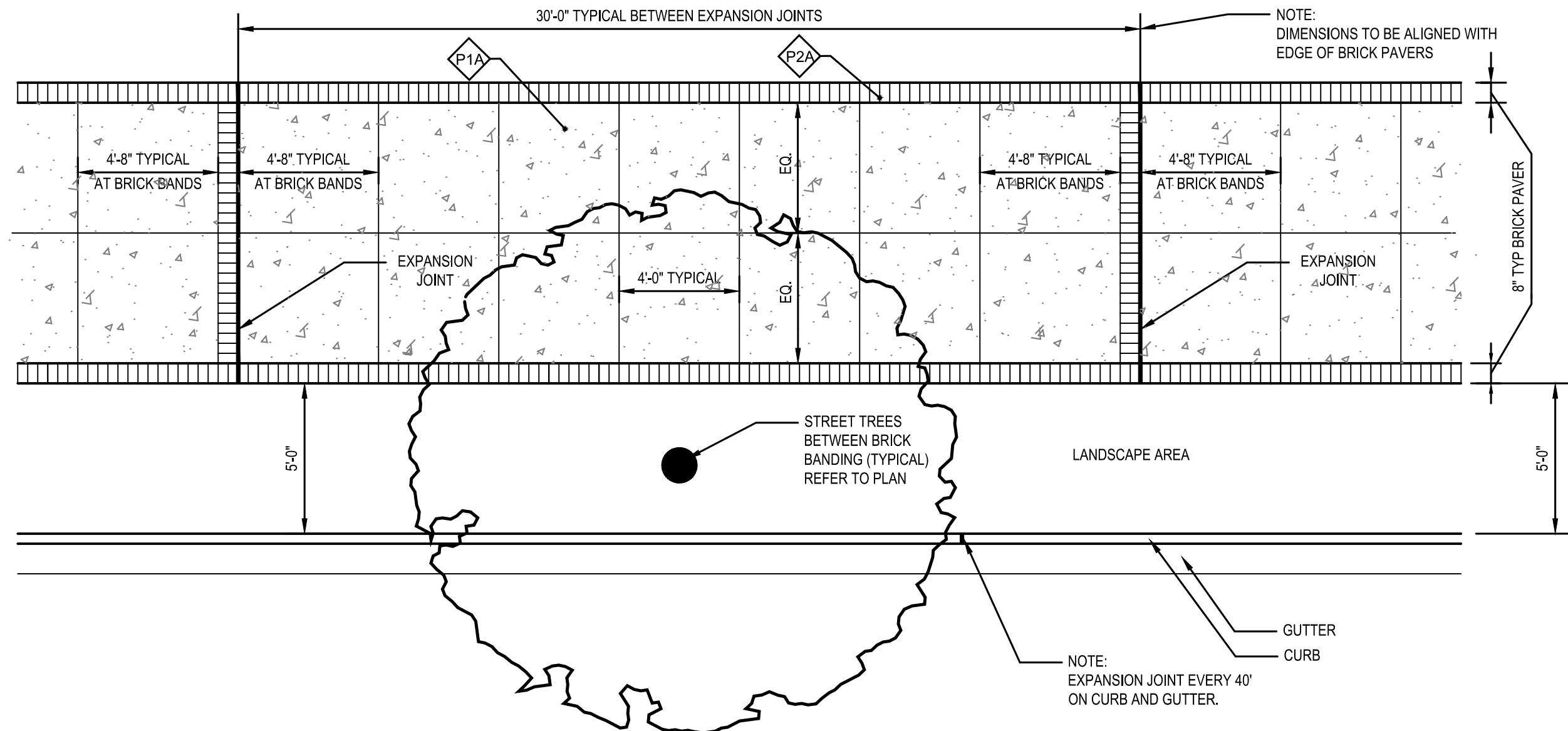
2 CONCRETE PAVING JOINTS
Scale: 1 1/2"=1'-0"



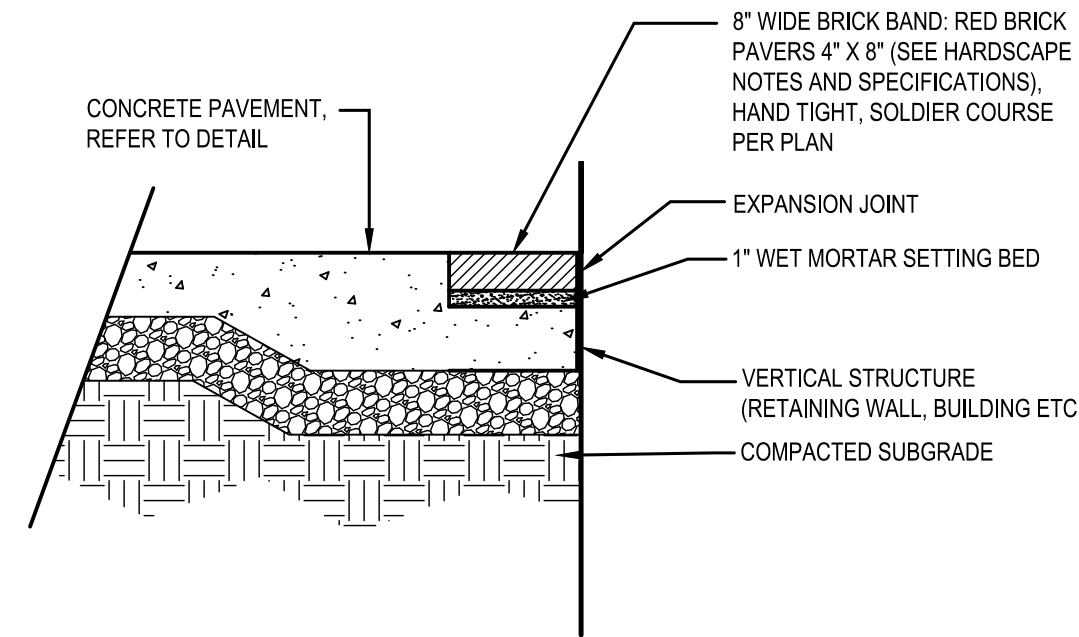
3 BRICK BAND SET IN CONCRETE
1"=1'-0"



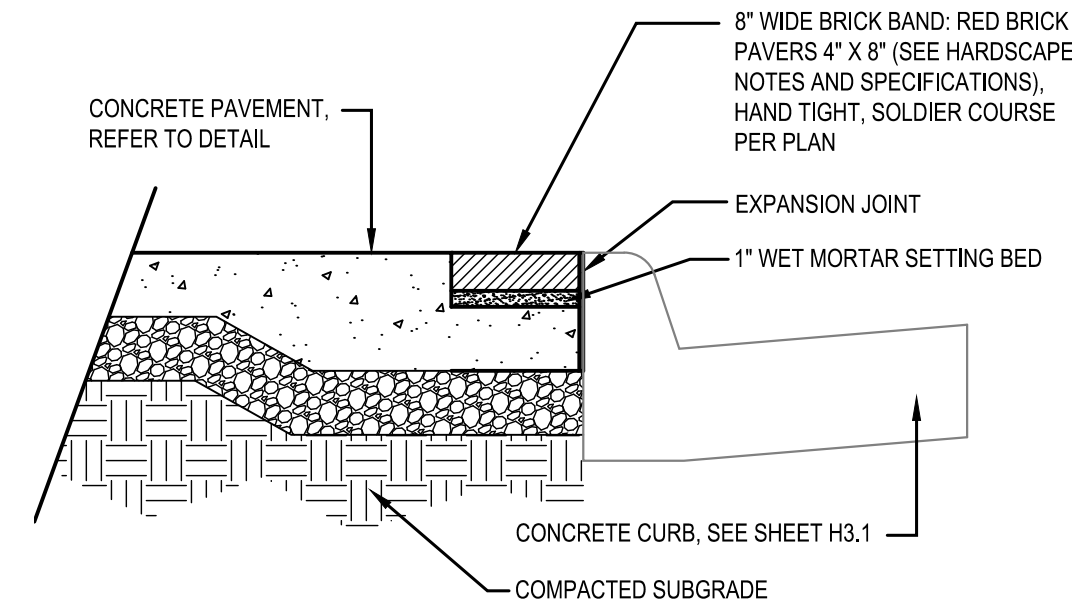
4 BRICK BAND AT LAWN
1"=1'-0"



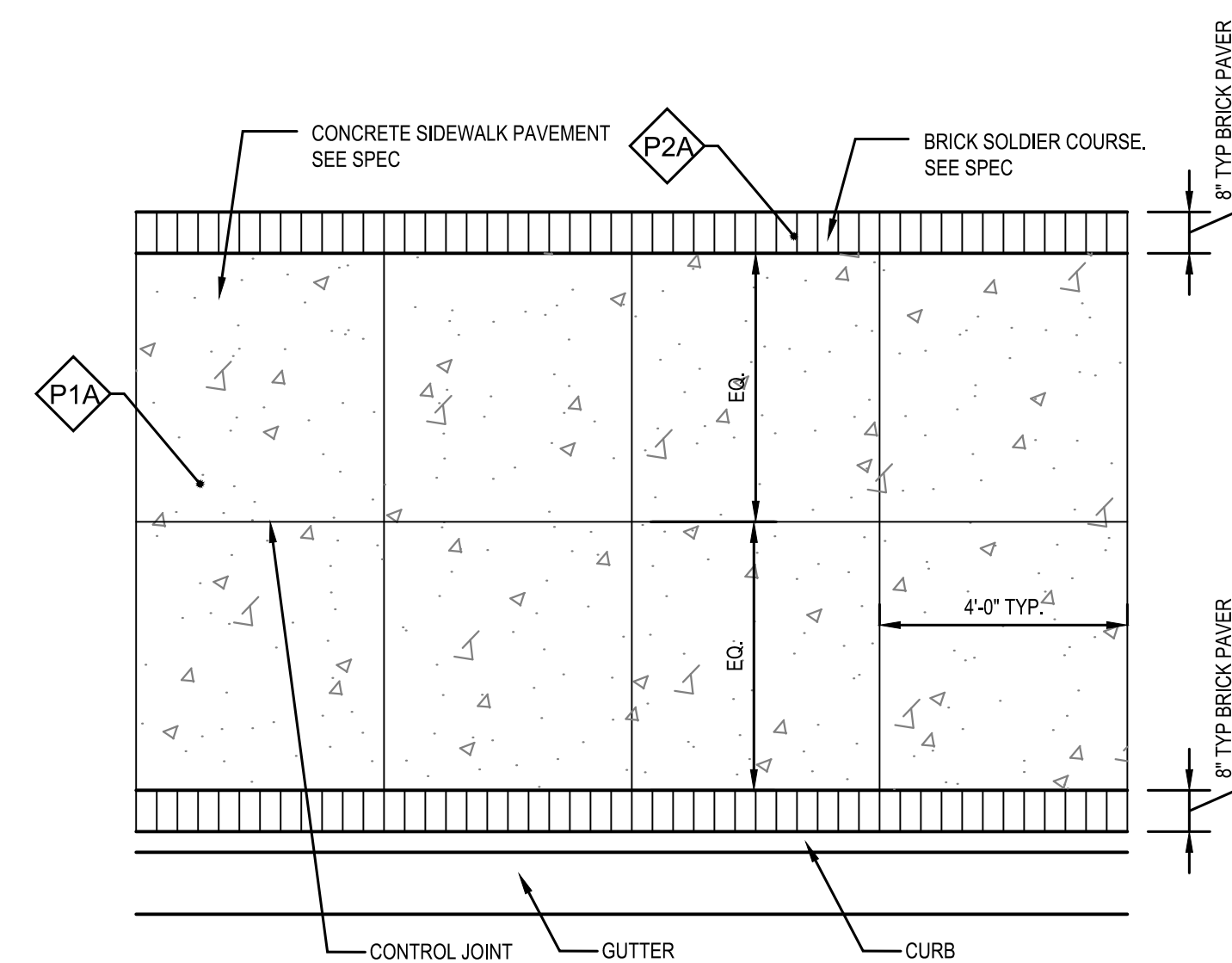
5 TYPICAL PAVING AT CONTINUOUS TREE PIT
SCALE: 1/4" = 1'-0"



6 BRICK BAND AT VERTICAL STRUCTURE
1"=1'-0"



7 BRICK BAND AT CURB
1"=1'-0"



9 SIDEWALK PAVING (TYP.)
SCALE: 3/8" = 1'-0"

| PAVING MATERIALS LEGEND | | | | | | |
|-------------------------|-------------------------|----------------|-------|--------------------|----------------|---------------------------|
| KEY | TYPE | SIZE (NOMINAL) | COLOR | FINISH / TYPE | PATTERN | MANUFACTURER |
| P1A | CONCRETE | -- | -- | LIGHT BROOM FINISH | | -- |
| P2A | PAVERS - SOLDIER COURSE | 4" X 8" | RED | REGIMENTAL RED | SOLDIER COURSE | BELDEN, OR APPROVED EQUAL |

7A PAVING SCHEDULE

NOTE:
SEE SHEET A14.5 FOR PAVING SCHEDULE

ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES

LANDSCAPE DETAILS
COLUMBIA PIKE - ROUTE 244
COLUMBIA PIKE - MULTIMODAL STREET IMPROVEMENTS
SEGMENT A
S. OAK ST. TO S. ORME ST.

SCALE: HOR. N/A VERT. N/A SHEET: A14.4 of A14.11

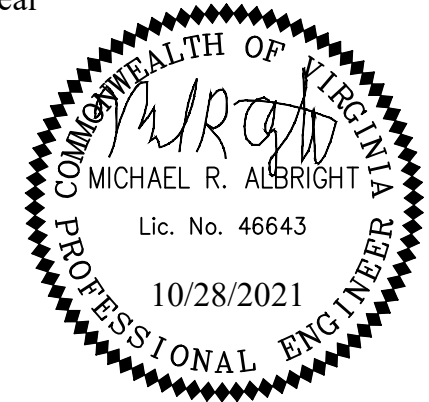


DEPARTMENT OF
ENVIRONMENTAL SERVICES

Facilities & Engineering Division
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Phone: 703.228.3629
Fax: 703.228.3606

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Fax: 703-674-1500

Seal



Approvals Date

Design Team Engineer Supervisor

Construction Management Supervisor

Water, Sewer, Streets Bureau Chief

Transportation Director

Project Manager

Revisions Date

Designed: KWA
Drawn: WDW
Checked: MRA
Miss Utility Transmittal #:

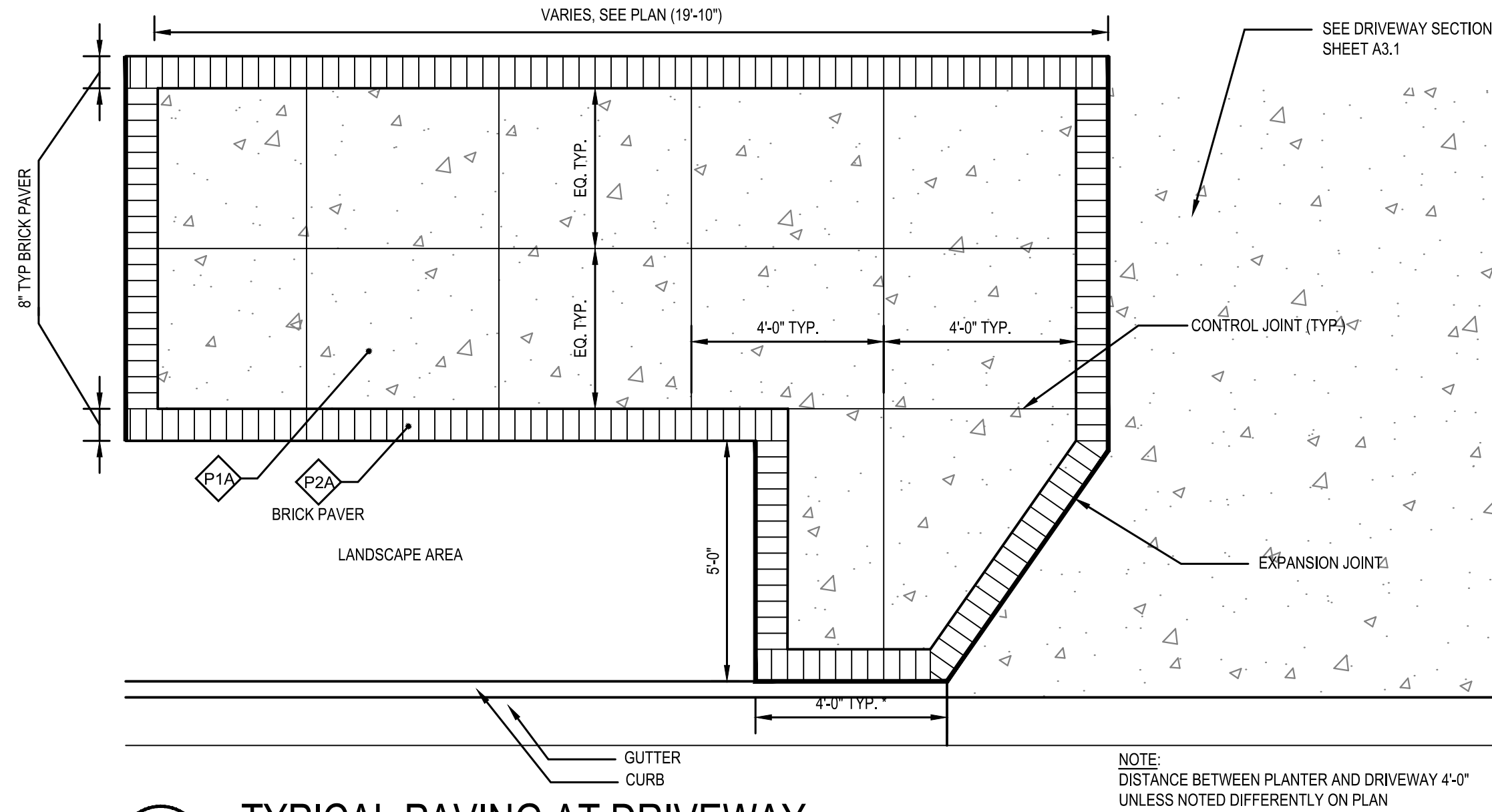
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Plotted: October 28, 2021
Plotted by: Patrick.Husted



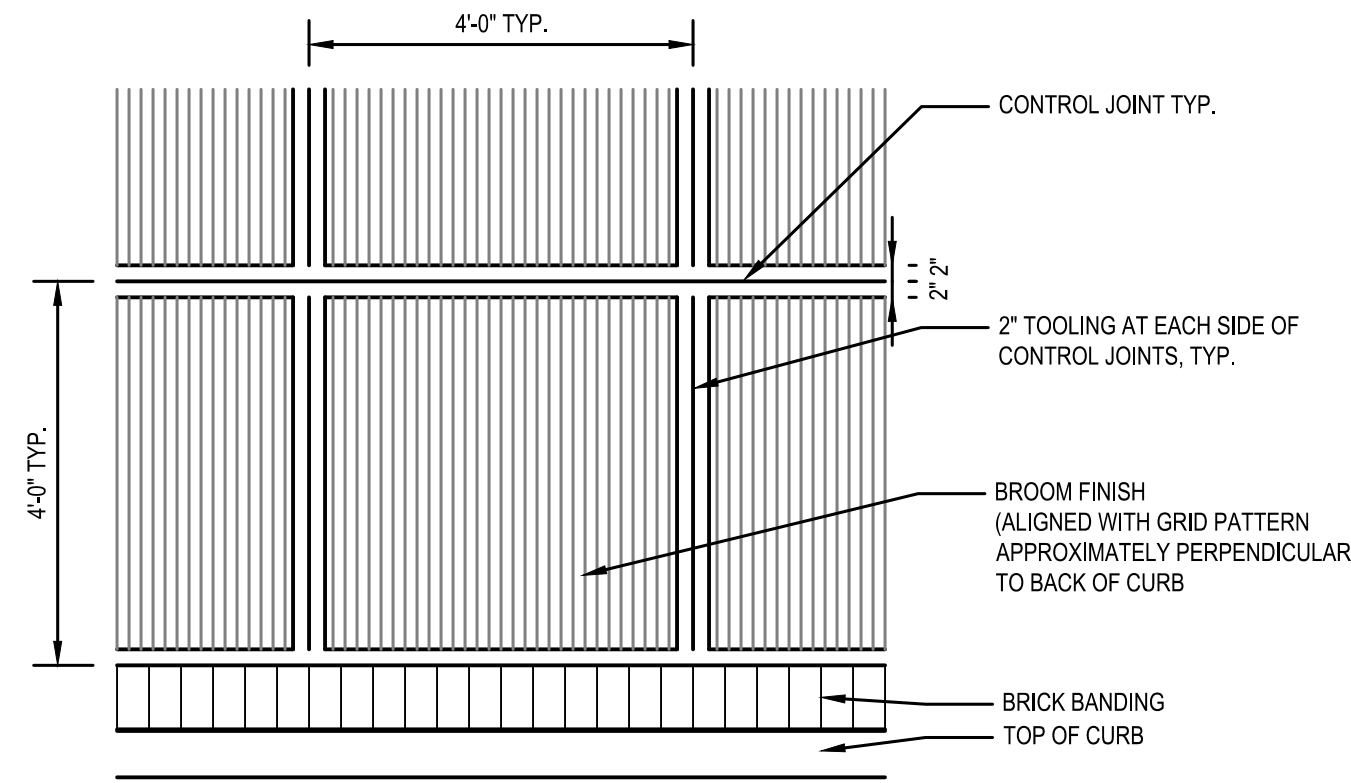
DEPARTMENT OF
ENVIRONMENTAL SERVICES

LUIS ARAYA
BUREAU CHIEF, DES - DEVELOPMENT SERVICES

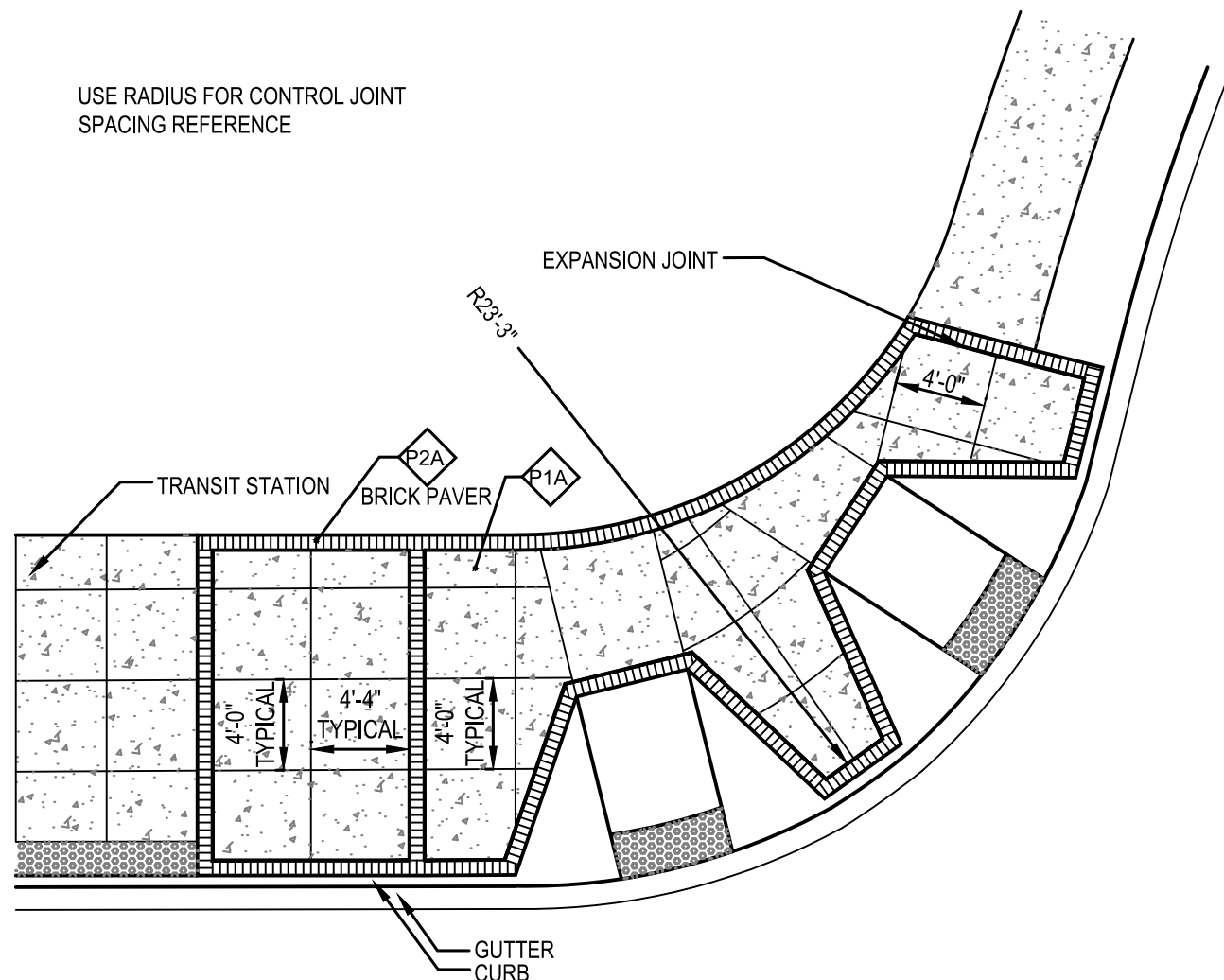
11/23/2021
APPROVAL DATE



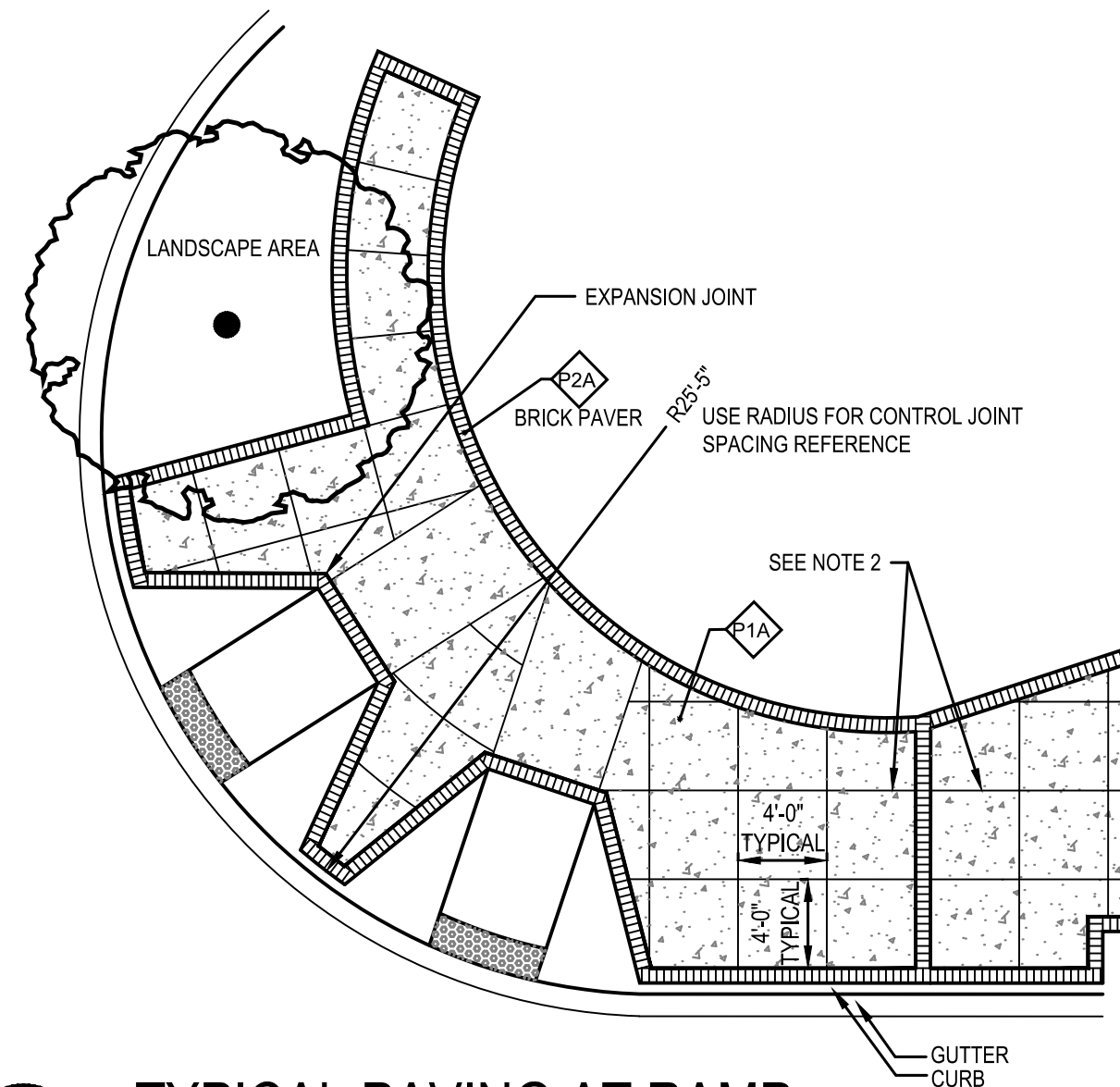
2 TYPICAL PAVING AT DRIVEWAY
SCALE : 3/8" = 1'-0"



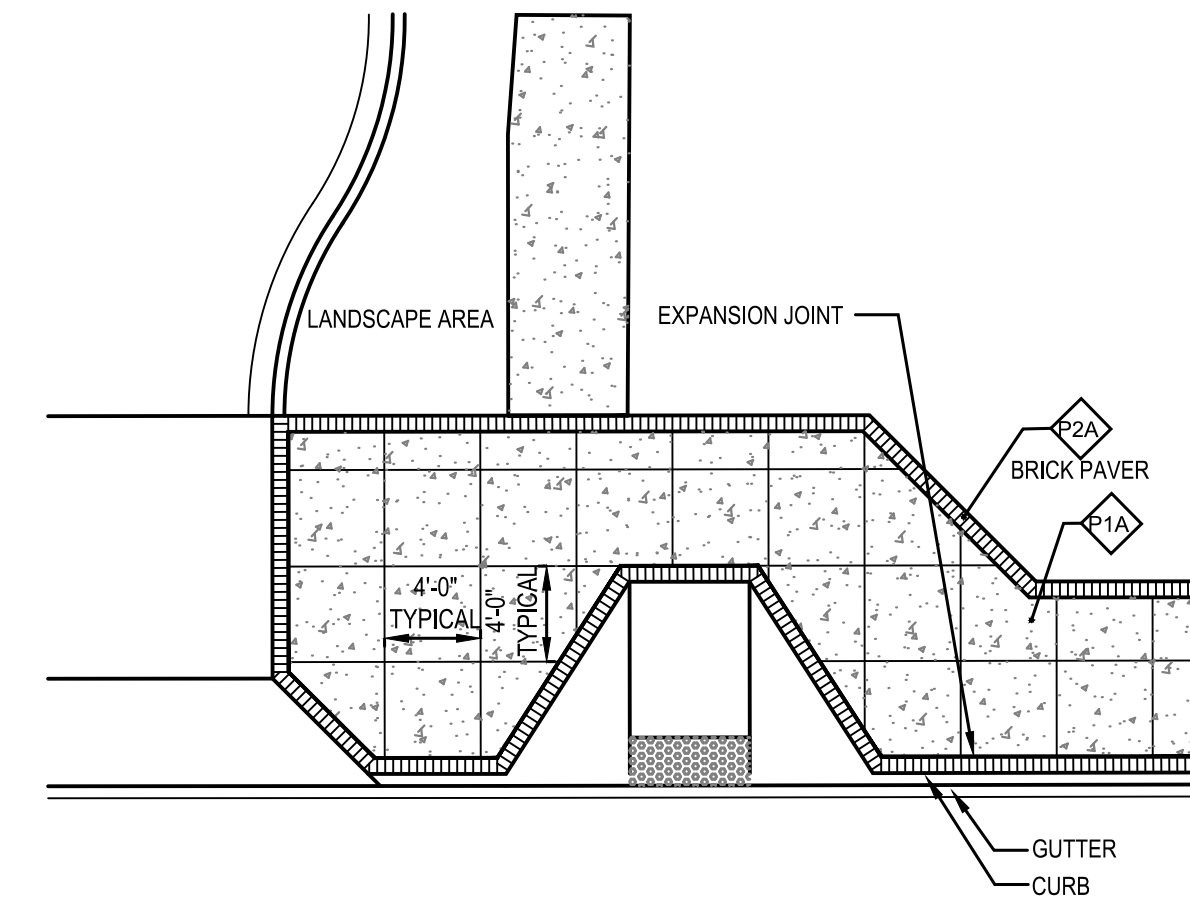
3 TYPICAL TOOLING DETAIL
1/2" = 1'-0"



4 TYPICAL PAVING AT RAMP
1/8" = 1'-0"



5 TYPICAL PAVING AT RAMP
1/8" = 1'-0"



6 TYPICAL PAVING AT RAMP
1/8" = 1'-0"

- NOTES:
- CONTROL JOINTS BETWEEN RAMPS TO BE OFFSET FROM BACK OF CURB RADIUS
 - CONTROL JOINTS TO MATCH FROM PREVIOUS SEGMENTS

| PAVING MATERIALS LEGEND | | | | | | | |
|-------------------------|-------------------------|----------------|-------|--------------------|----------------|---------------------------|-------------|
| KEY | TYPE | SIZE (NOMINAL) | COLOR | FINISH / TYPE | PATTERN | MANUFACTURER | DETAIL REF. |
| P1A | CONCRETE | -- | -- | LIGHT BROOM FINISH | | -- | |
| P2A | PAVERS - SOLDIER COURSE | 4" X 8" | RED | REGIMENTAL RED | SOLDIER COURSE | BELDEN, OR APPROVED EQUAL | |

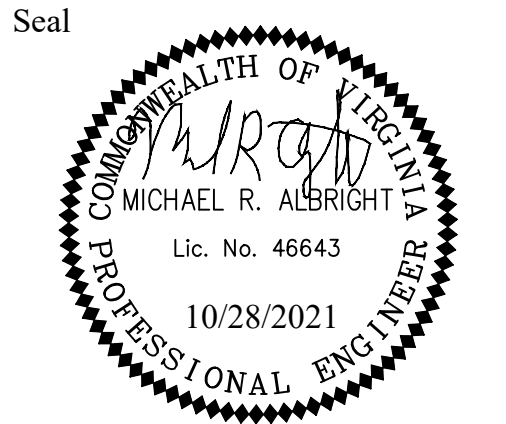
7 PAVING SCHEDULE



DEPARTMENT OF
ENVIRONMENTAL SERVICES

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Approvals Date

Design Team Engineer Supervisor

Construction Management Supervisor

Water, Sewer, Streets Bureau Chief

Transportation Director

Project Manager

| Revisions | Date |
|-----------|------|
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Designed: KWA
Drawn: WDW
Checked: MRA
Miss Utility Transmittal #:

Filename: 010073-A-LAND-DTL.dwg
Path: C:\N/A_KH\N\110010073_schubbs plus.mxd\mxd\project\work
Plotted: October 28, 2021
Plotted by: Patrick.Husted

ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES

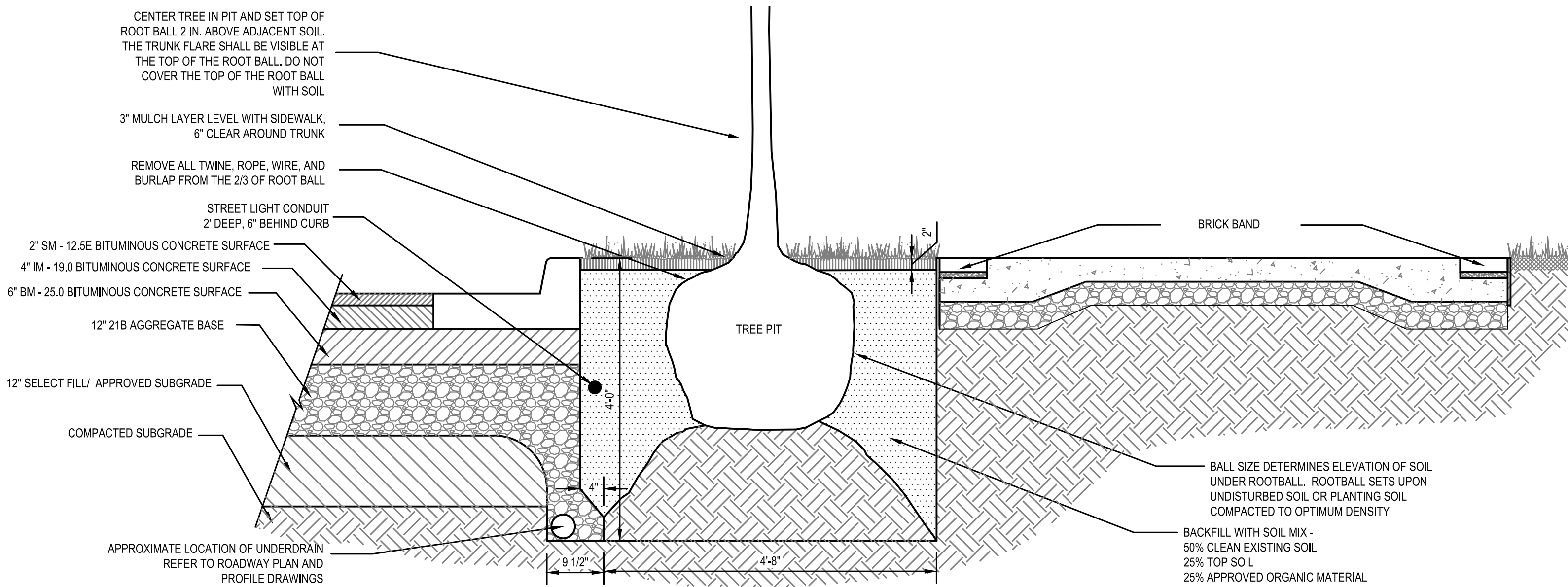
LANDSCAPE DETAILS
COLUMBIA PIKE - ROUTE 244
COLUMBIA PIKE - MULTIMODAL STREET IMPROVEMENTS
SEGMENT A
S. OAK ST. TO S. ORME ST.

SCALE: HOR. N/A VERT. N/A SHEET: A14.5 of A14.11

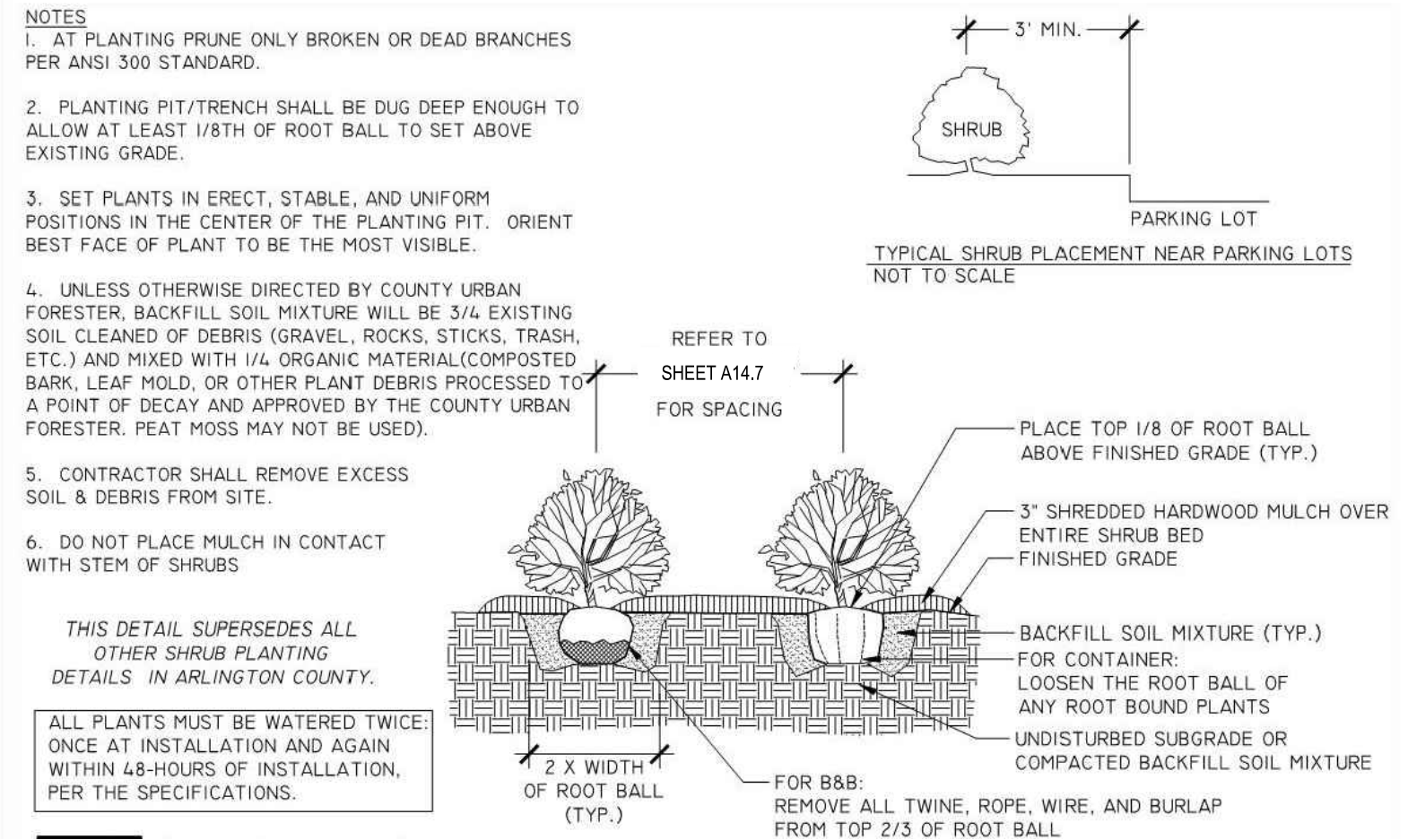


DEPARTMENT OF
ENVIRONMENTAL SERVICES

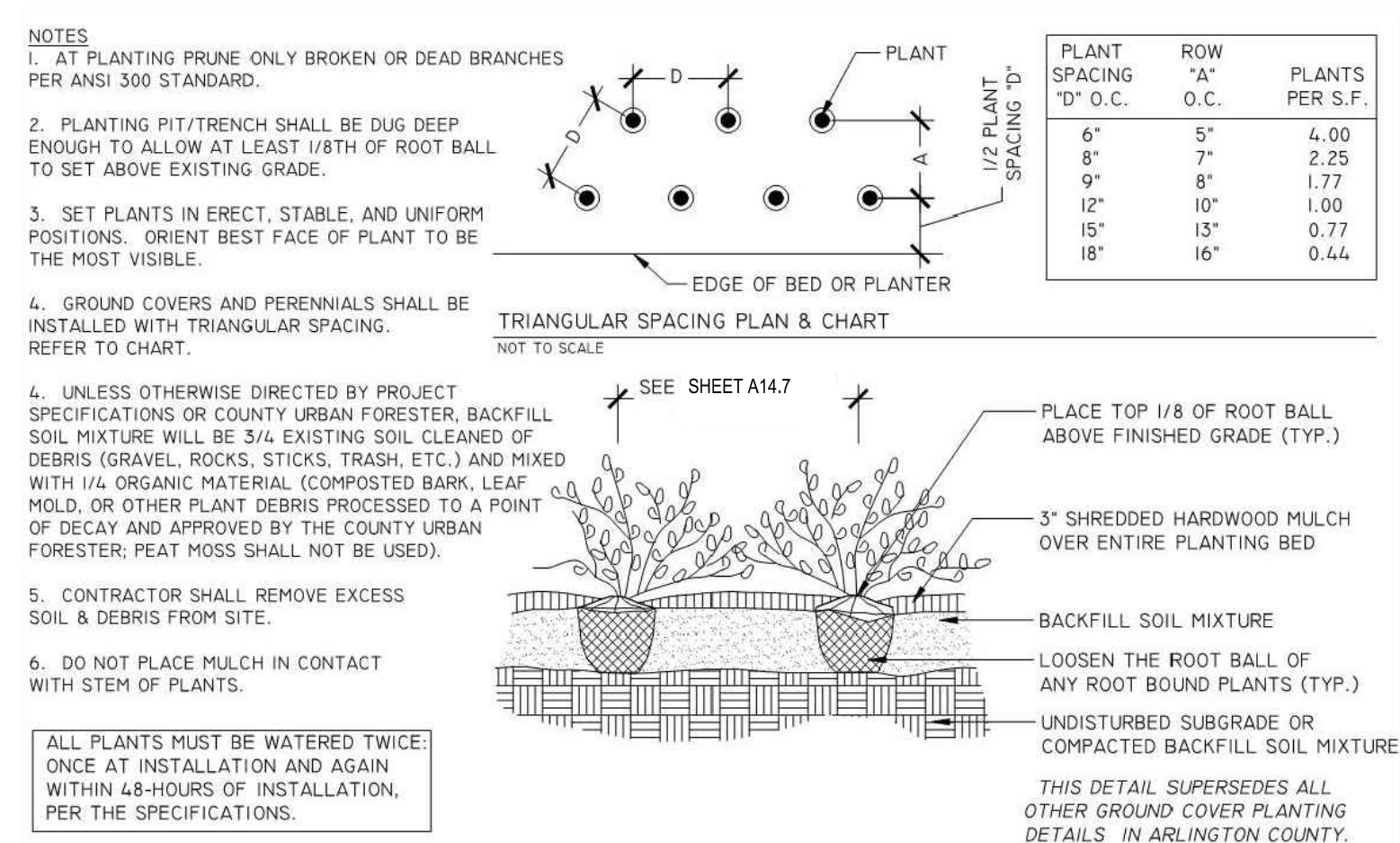
11/23/2021
APPROVAL DATE



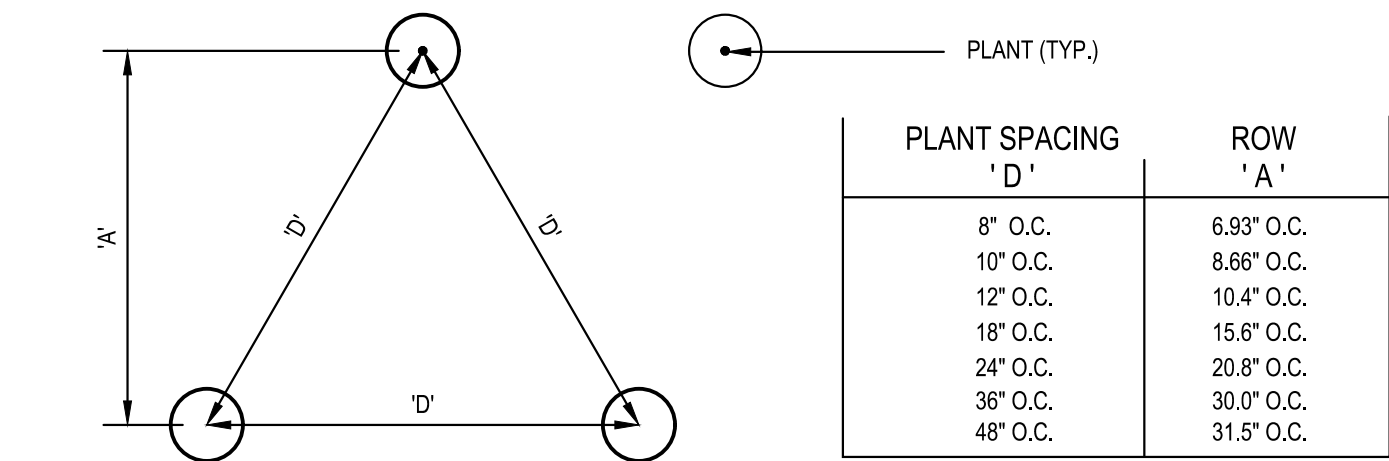
1 STREET TREE PLANTING IN ADJACENT R.O.W.
Scale: 3/4"=1'-0"



3 SHRUB PLANTING
NTS



4 GROUND COVER & PERENNIAL PLANTING
NTS



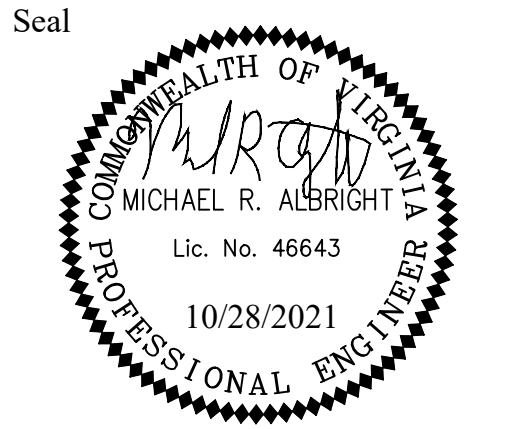
2 TYPICAL SHRUB/GRASS PLANTING
1/2"=1'-0"



DEPARTMENT OF
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Approvals Date

Design Team Engineer Supervisor

Construction Management Supervisor

Water, Sewer, Streets Bureau Chief

Transportation Director

Project Manager

| Revisions | Date |
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Designed: KWS
Drawn: WDW
Checked: MRA
Miss Utility Transmittal #:

Filename: 010073-A-LAND-DTL.dwg
Path: C:\N/A\KSR\110010073\shrubbs plus mulch\cd\project\work
1: Final design of columbia pike multimodal street improvements
2: Issued for construction
Plotted: October 28, 2021
Plotted by: Patrick.Husted

ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES

LANDSCAPE DETAILS
COLUMBIA PIKE - ROUTE 244
COLUMBIA PIKE - MULTIMODAL STREET IMPROVEMENTS
SEGMENT A
S. OAK ST. TO S. ORME ST.

SCALE: HOR. N/A VERT. N/A SHEET: A14.6 of A14.11

OVERALL PLANT TABLE

| KEY | QTY. | BOTANICAL / COMMON NAME | SIZE | ROOT | COMMENTS |
|--------------|------|--|---------|------|---------------------------|
| CANOPY TREES | | | | | |
| PA | 1 | <i>Platanus x acerifolia</i> London Planetree | 3" cal. | B&B | Uniform branching pattern |
| QB | 4 | <i>Quercus bicolor</i> Swamp White Oak | 3" cal. | B&B | Uniform branching pattern |
| QA | 5 | <i>Quercus palustris</i> Pin Oak | 3" cal. | B&B | Uniform branching pattern |
| QP | 6 | <i>Quercus phellos</i> Willow Oak | 3" cal. | B&B | Uniform branching pattern |

EVERGREEN TREES

| | | | | | |
|----|----|--|-------------|-----|-----------------------|
| PV | 12 | <i>Pinus virginiana</i> Virginia Pine | 10' min ht. | B&B | Full to ground, Dense |
|----|----|--|-------------|-----|-----------------------|

SHRUBS / GRASSES

| | | | | | |
|-----|-----|---|--------|-------|-----------------------|
| SCO | 369 | <i>Schizachyrium scoparium</i> Little Bluestem | 1 gal. | Cont. | 24" O.C., full, dense |
|-----|-----|---|--------|-------|-----------------------|

PERENNIALS, GROUNDCOVERS, AND VINES

| | | | | | |
|-----|-----|--|--------------|-------|-----------------------|
| RHU | 313 | <i>Rhus aromatica 'Gro-Low'</i> Gro-Low Sumac | 18" ht. min. | Cont. | 30" o.c., Full, dense |
|-----|-----|--|--------------|-------|-----------------------|

SEGMENT A TREE CALCULATIONS

| | Segment A | Segment F | Segment H | Total |
|--|-----------|-----------|-----------|-------|
| Trees Removed | 27 | 367 | 70 | 464 |
| Trees Required for Reforestation | 43 | 288 | 86 | 417 |
| Trees Provided (Canopy, Ornamental & Evergreen) | 28 | 120 | 125 | 273 |
| Delta Δ | (15) | (168) | 39 | (144) |

Note:
1. Overall Reforestation for Segment A is deficient by 15 Trees. Additional Trees shall be planted with Segments C, D, F & H to satisfy the Total Trees Required for Reforestation
2. One Shade Tree or large Evergreen Tree shall be equivalent to One Reforestation Tree
3. Three Ornamental Trees or Small Evergreen Trees shall be equivalent to One Reforestation Tree
4. The adjoining DAR project will provide 171 trees (Canopy, Ornamental & Evergreen) within the proposed County Right-of-Way to meet the overall project goal

PLANTING SPECIFICATIONS

1. **QUALITY ASSURANCE:**
A. Landscape planting and related work shall be performed by a firm with a minimum of five years experience specializing in this type and scale of work.
B. Applicable Specifications and Standards:
Arlington County Zoning Ordinance,
American Joint Committee on Horticultural Nomenclature
American Standard for Nursery Stock, latest edition
American Association of Nurserymen Landscape Specification Guidelines for Baltimore Washington Metropolitan Areas, latest edition, Landscape Contractors Association.
2. **SUBMITTALS:** Submit the following to the Owner's Representative prior to beginning work:
A. Copies of manufacturer's data for all materials required.
B. Samples of required mulch material.
C. Chemical and mechanical analysis and samples of all existing soil, topsoil, organic matter and soil mix to be used.
D. Planting schedule showing the dates (earliest and latest) proposed for each type of plant specified, schedule each type of planting within the normal planting seasons for such work. Include requests for any proposed changes in the approved planting season and a list of proposed sources for all plant materials.
E. List of proposed sources for all plant material.
3. **DELIVERY, HANDLING, AND STORAGE:**
A. Deliver packaged materials in manufacturer's unopened containers or bundles, fully identified with name, brand, type, weight, and analysis. Store packaged materials in such a manner as to prevent damage or intrusion of foreign matter.
B. Dig balled and burlapped (B&B) plants with firm, natural balls of earth, of a diameter not less than that shown on the plant list nor less than recommended by the American Standard for Nursery Stock, and of sufficient depth to include the fibrous and feeding roots. B&B plants will not be accepted if the ball is cracked or broken before or during planting operation.
C. Deliver trees and shrubs after preparations for planting have been completed. Do not bend, bind, or tie trees or shrubs in such a manner as to damage bark, break branches or destroy natural shape. If planting is delayed more than 6 hours after delivery, set trees and shrubs in shade, protect from weather and mechanical damage, and keep roots moist by heeling-in bare root stock and covering plant balls with soil, peat moss or other acceptable material for balled stock. Plants shall be kept well watered and shall not remain unplanted for longer than ten (10) days after delivery.
D. Plants shall be lifted and handled from the bottom of the ball only.
E. Do not remove container-grown stock from containers until planting time.
4. **DRAINAGE:** Before planting, determine that areas to receive plant material have adequate subdrainage.
A. The landscape contractor is responsible for drainage tests as necessary to identify any problems prior to beginning planting operations. Upon commencement of planting operations the landscape contractor assumes responsibility for soil conditions.
B. Dig planting pits to full depth and dimensions indicated on drawings.
C. At bottom of planting pit, excavate rectangular pit 12 inches by 12 inches by 18 inches deep. Quickly pour water into pit to a depth of 6 inches (approximately 3-3 3/4 gallon). Note time required for water to be completely absorbed. Divide time noted by 6 to achieve average rate of absorption for 1 inch of water. Where rate of absorption exceeds 60 minutes per inch, notify owner immediately for directions on how to proceed.
5. **PLANTING DATES:** Planting shall be done only within the following dates except as approved by Owner.
A. Deciduous Trees and Shrubs: March 1 to May 31 and October 15 to December 15.
B. Evergreen Trees, Shrubs and Vines: March 1 to May 31 and September 1 to November 15.
C. All plant material shall be guaranteed by the Contractor for a period of 1 year from the date final acceptance to be in good, healthy and flourishing condition.
6. **MATERIALS FOR PLANTING:**
A. Topsoil: shall be a fertile, friable natural loam, uniform in composition, free of stones, lumps, plants and their roots, debris and other extraneous matter over 1 inch in diameter, capable of sustaining vigorous plant growth. Soil shall be harvested at a single source from the O and/or A horizons of the soil profile.
1) Topsoil shall have a pH range of 5.5 to 7.5.
2) Topsoil shall contain 1.5-5% organic matter by dry weight .
3) Soil Texture: sandy loam, sandy clay loam with the following particle size distribution:
Gravel Less than 10%
Silt 15-35%
Clay 20-35%
Chemical Levels shall be:
Magnesium Mg100+ units
Phosphorus P205 150+ units
Potassium - K20 120+ units
4) Soluble Salts/ Conductivity - Not to exceed 900 ppm/0.9 mmhos/cm (in soil); not to exceed 3000 ppm/2.5 mmhos/cm (in high organic mix)
5) Cation exchange capacity shall be a minimum of 8 meq/100g.
B. Clay Loam to Sandy Clay Loam Soil: shall be a fertile, friable natural loam, uniform in composition, free of stones, lumps, plants and their roots, debris and other extraneous matter over 1 inch in diameter, capable of sustaining vigorous plant growth.
1) Soil shall have a pH range of 5.5 to 6.5.
2) Soil shall contain 2-5% organic content by volume.
3) Soil Texture: Clay loam to sandy clay loam with the following particle size distribution:
Gravel Less than 10%
Sand 20-50%
Silt <35%
Clay 20-40%
4) Chemical Levels shall be:
Magnesium Mg100+ units
Phosphorus P205 150+ units
Potassium - K20 120+ units
5) Soluble Salts/ Conductivity - Not to exceed 900 ppm/0.9 mmhos/cm (in soil); not to exceed 3000 ppm/2.5 mmhos/cm (in high organic mix)
6) Cation exchange capacity shall be 20-35 meq/100g.
C. Compost: Compost shall be mature, stable, weed free, and produced by aerobic decomposition of organic material. Compost feedstock shall be plant matter, such as high lignin forestry products or yard waste (leaves, brush and yard trimmings).
1) The product must not contain any visible refuse or other physical contaminants, substances toxic to plants, or over 5% sand, silt, clay or rock material by dry weight.
2) Compost shall be sampled and tested as required by the Seal of Testing Assurance Program of the United States Composting Council (USCC) and shall meet the physical requirements for compost as determined by USCC.
3) The product shall possess no objectionable odors. The product must meet all applicable USEPA CFR, Title 40, Part 503 Standards for Class A biosolids.
4) The moisture level shall be such that no visible water or dust is produced when handling the material.
D. Composted Pine Bark Fines: Shall be approved composted, ground pine bark having no particle with a dimension greater than 3/4 inch. No more than 10% shall be wood.
E. Sand: Shall be quartz based sharp concrete sand, ASTM C-33 Fine Aggregate, with a Fines Modulus Index between 2.8 and 3.2.
F. Perlite: Coarse horticultural grade expanded, volcanic perlite. Maximum density shall be 8 lb./ft3.
1) pH shall be 6.5 to 7.5.
2) Perlite shall be meet the Perlite Institute's Standards for Gradation for Horticultural Perlite for Coarse Perlite with no more than 70% passing through a #16 Standard Sieve.
G. Humus: Shall be mature, stable, weed free, and produced by aerobic decomposition of organic matter. Compost feedstock shall be plant matter, such as high lignin forestry products or yard waste (leaves, brush and yard trimmings).
1) Humus shall have a pH between 6 and 7.5.
2) Soluble Salt Concentration shall be less than 10dS/m.
3) Cation exchange capacity rate shall be 100-250.
4) The product must not contain any visible refuse or other physical contaminants, substances toxic to plants, or over 5% sand, silt, clay or rock material by dry weight.
5) The product shall possess no objectionable odors. The product must meet all applicable USEPA CFR, Title 40, Part 503 Standards for Class A biosolids.
6) The moisture level shall be such that no visible water or dust is produced when handling the material.
H. Trace Elements: Shall be commercially available slow release materials containing zinc (Zn), Molybdenum (Mo), Copper (Cu), Boron (B), and Magnesium (Mn).
I. Fertilizer: A commercial fertilizer for ornamental trees, shrubs and ground cover with an analysis of 10% Nitrogen, 6% Phosphorus and 4% Potassium shall be used. This fertilizer shall be granular with a minimum of 50% of the total Nitrogen in organic form. 14-14-14-Osmocote (or approved equal) shall be applied at a rate of 10 lbs. per square foot, tilled to a depth of 8 inch, shall be used for perennials.
J. Soil Separator: Shall be rot resistant non-woven polypropylene filter fabric, water permeable, and unaffected by freezing and thawing. Acceptable products include: Mirafi 140N, Mirafi Civil Engineering Co., or Stablenika Type T-80, American Enka Co., Enka, N.C.
K. Planter Drainage Fabric: Shall be prefabricated planter drainage fabric Miradrain 9000, a composite system consisting of a Mirafi drainage fabric bonded to a three-dimensional highly impact-resistant plastic core. The core shall have the following attributes:
1) Compressive Strength: (ASTM D-1621), 15,000 + PSF.
2) Overlaps: Shall be capable of mechanically interlocking so as to prevent separation of the overlaps during backfill.
7. **PLANT MATERIALS:** (Refer to the PLANT LIST on the drawings for specific types and quantities of plants).
A. Plants shall be nursery grown in accordance with good horticultural practices. Plants shall either be obtained from local nurseries and/or others, which have soil (heavy clay) and climatic conditions similar to those in the locality of the project.
B. Plant material grown in sandy, well-drained soil will not be approved for this project. Plants shall be true to species and variety and unless specifically noted otherwise, all plants shall be of specimen quality, exceptionally heavy, symmetrical, tightly-knit plants, so trained or favored in their development and appearance as to be superior in form, number of branches, compactness and symmetry.

- C. Plants shall be sound, healthy and vigorous, well branched and densely foliated when in leaf, free of disease, insect pests, eggs or larvae and shall have healthy, well-developed root systems. They shall be free from physical damage or any conditions that would prevent thriving health and the desired appearance.
- D. Trees, which have a damaged or crooked leader, or multiple leaders, unless specified in the plant list, will be rejected. Trees with abrasion of the bark, sun scald, disfiguring knots, or pruning cuts more than 1 1/4 inch diameter which have not completely callused, will be rejected.
- E. Plants shall conform to measurements specified in the plant schedules except that plants larger than specified may be used if acceptable to the Landscape Architect or owner. Use of such plants shall not increase the contract price. If larger plants are accepted, the root ball shall be sized for the larger plant.
- F. Caliper Measurement: Shall be taken at a point on the trunk 6 inches above natural ground line for trees up to 4 inches diameter, and at a point 12 inches above the natural ground line for trees over 4 inches diameter.
- G. Plants shall be measured when branches are in the normal position. Height and spread dimensions specified refer to the main body of the plant and not from branch tip to tip.
8. **SOIL MIXING PROCEDURES:**
A. Topsoil used in sand/soil mixes shall be screened or shredded prior to mixing in sands. Maximum clod inclusion for soil mixes shall not exceed:
Clod size (largest dimension) % of the soil mix volume
Less than 1" Unlimited
1 to 3 inches 20%
3 to 6 inches 5%
>6 inches Less than 2%
B. Source material and soil mix stockpiles shall be protected from rain by covering with filter cloth.
9. **INSPECTION:**
A. Examine the areas and conditions where soil mix is to be installed and notify the Architect of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions are corrected to permit proper installation of the work.
B. Cooperate with other Contractors and trades working in and adjacent to other work areas. Examine drawings which show development of entire project and become familiar with scope of other work required.
10. **SOIL INSTALLATION - GENERAL PROCEDURES:**
A. If subgrade soil compaction exceeds 80%, existing soil shall be ripped to a depth of 12 inch to alleviate compaction which has taken place during construction. Prior to loosening of soil, Contractor must locate existing utilities and coordinate with Owner any underground electric lines, drainage pipes, conduits, etc.
B. Prepare the subgrade by roughening the top 3" of the subsoil by dragging the teeth of a backhoe bucket across the surface.
C. Begin soil installation as soon as subsoil is prepared. Use low impact equipment with track belts, large tires, or low tire pressure to lower compaction and soil damage during installation.
D. Monitor compaction during installation and loosen soils as needed if compaction exceeds 80%.
E. Install specified soil in 12"-18" thick lifts. Compact each lift sufficiently to reduce settling but not enough to prevent the movement of water and feeder roots through the soil. The soils in each lift should feel firm to the foot in all areas and make only slight heel prints.
11. **INSTALLATION OF SOIL MIX FOR LAWN AREAS ON GRADE:**
A. Soil Mix for Lawns on Grade: shall consist of 10% compost and 90% topsoil, by volume. These materials must meet specifications described in Section 2.00.
B. Loosen subgrade lawn areas to a minimum of 3". Remove stones more than 1-1/2" in any dimension and sticks, roots, rubbish, and other extraneous matter. Limit preparation to areas which will be planted promptly after preparation.
C. Spread soil mix for lawn areas on grade to a minimum depth of 8" as required to meet grade and elevations shown on drawings, after lightly rolling and natural settlement. Allow for sod thickness in areas to be sodded.
12. **INSTALLATION OF SOIL MIX FOR TREE PITS ON GRADE:**
A. Confirm that native subsoil drains at a rate of at least 1/2" per hour. If drainage is less than 1/2" per hour, provide subsurface drainage lines.
B. Install 30-36" of Soil Mix for Tree Pit Backfill on Grade.
1) Shall consist of clay loam to sandy clay loam soil, sand, and composted pine bark fines at a rate of 5:5:1 to 10:5:1.5 to achieve the following:
(a) Clay content of Soil Mix shall be 10-20% of the soil mix, by volume.
(b) Minimum amount of coarse to medium sand in the mix shall be 55%
(c) Minimum infiltration rate at 80-85% compaction shall be 1-3 inches per hour.
A. Composted pine bark fines shall not exceed 10% of the total soil mix by volume.
B. Till 4" of compost into the top 6" of the installed Soil Mix for Tree Pit Backfill on Grade.
13. **INSTALLATION OF SOIL MIX FOR MULCHED SHRUB AND PERENNIAL BEDS:**
A. Confirm that native subsoil drains at a rate of at least 1/2" per hour. If drainage is less than 1/2" per hour, provide subsurface drainage lines.
B. Install 14" of Soil Mix for Mulched Shrub and Perennial Beds on Grade:
1) Shall consist of clay loam to sandy clay loam soil, sand, and composted pine bark fines at a rate of 5:5:1 to 10:5:1.5 to achieve the following:
(a) Clay content of Soil Mix shall be 10-20% of the soil mix, by volume.
(b) Minimum amount of coarse to medium sand in the mix shall be 55%
(c) Minimum infiltration rate at 80-85% compaction shall be 1-3 inches per hour.
C. Composted pine bark fines shall not exceed 10% of the total soil mix by volume.
D. Till 4" of compost into the top 6" of the installed Soil Mix for Tree Pit Backfill on Grade.
14. **EROSION CONTROL MATERIAL AND PLANTING ON STEEP SLOPES:**
A. Material meeting the requirements of the specifications shall be installed and maintained on the designated areas as shown and specified. The areas to be covered shall be prepared and fertilized as specified before the erosion material is placed. Immediately prior to the planting operations, the material shall be laid evenly, smoothly and in contact with the soil throughout.
B. Lay erosion control materials with one inch nominal openings in accordance with manufacturer's instructions. Unroll in direction of water flow. Overlap sheets by at least 6 inches. Where strips are to be spliced lengthwise, overlap strips by 8 inches. Upgrade section shall be on top of all splices.
C. The Contractor shall maintain and protect the erosion control material until the final inspection. Maintenance shall consist of repairs made necessary by erosion, wind or any other cause. Following the restoration of damaged areas under plant and turf guarantee and establishment requirements for applicable underlying items; the erosion control material shall be repaired or replaced to meet the original requirements and maintained until the final inspection.
15. **GENERAL PLANT INSTALLATION:**
A. Excavation: Excavate all tree pits and planting areas to the width and depth shown in the planting details.
B. Center plant in pit and orient for the best visual effect. Set plants plumb and hold rigidly in position until soil has been tamped firmly around root ball.
C. Mulch within 48 hours after planting and after applying the pre-emergent herbicide, except ground cover areas (which shall have organic material placed before planting) with a 2" layer of mulch immediately after planting. All bed lines shall be cut with a smooth consistent edge to a minimum depth of 3 inches. Keep mulch out of the crowns of shrubs and off buildings, sidewalks, light standards, and other structures.
D. All planting areas to conform to specified grades after full settlement has occurred and mulch has been applied. Provide saucers around tree pits as shown on planting details. Remove all tags, labels, strings, etc. from all plants.
16. **PERMANENT SEEDING OR SODDING FOR GRASS AREAS:**
A. Lawn Seed or Sod varieties shall be an improved variety turf-type tall fescue blend. The landscape contractor shall select from varieties approved by the Maryland or Virginia Department of Agriculture.
B. Refer to the Virginia Erosion and Sediment Control Handbook, for guidelines, specifications and installation techniques of seed and sod.
C. Maintenance shall begin immediately after each plant and lawn area is installed and shall continue until 90 days after final acceptance of the last section.



DEPARTMENT OF ENVIRONMENTAL SERVICES

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Reston, Virginia 20190
Phone: 703-674-1500
Fax: 703-674-1500

Seal



Approvals Date

Design Team Engineer Supervisor

Construction Management Supervisor

Water, Sewer, Streets Bureau Chief

Transportation Director

Project Manager

| Revisions | Date |
|-----------|------|
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Designed: KWA
Drawn: WDW
Checked: MRA
Miss Utility Transmittal #:

Filename: 010073-A-LAND-PLNT-LST.dwg
Path: L:\010073-A-LAND-PLNT-LST\010073-A-LAND-PLNT-LST.dwg
Plotted: October 28, 2021
Plotted by: Patrick.Husted

ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES

PLANT LIST AND PLANTING SPECIFICATIONS
COLUMBIA PIKE - ROUTE 244
COLUMBIA PIKE - MULTIMODAL STREET IMPROVEMENTS
SEGMENT A
S. OAK ST. TO S. ORME ST.

SCALE: HOR. N/A VERT. N/A SHEET: A14.7 of A14.11



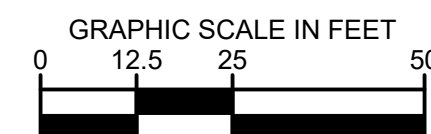
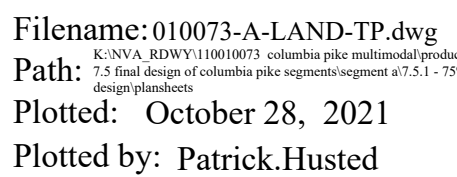
LUIS ARAYA
BUREAU CHIEF, DES - DEVELOPMENT SERVICES

DEPARTMENT OF ENVIRONMENTAL SERVICES

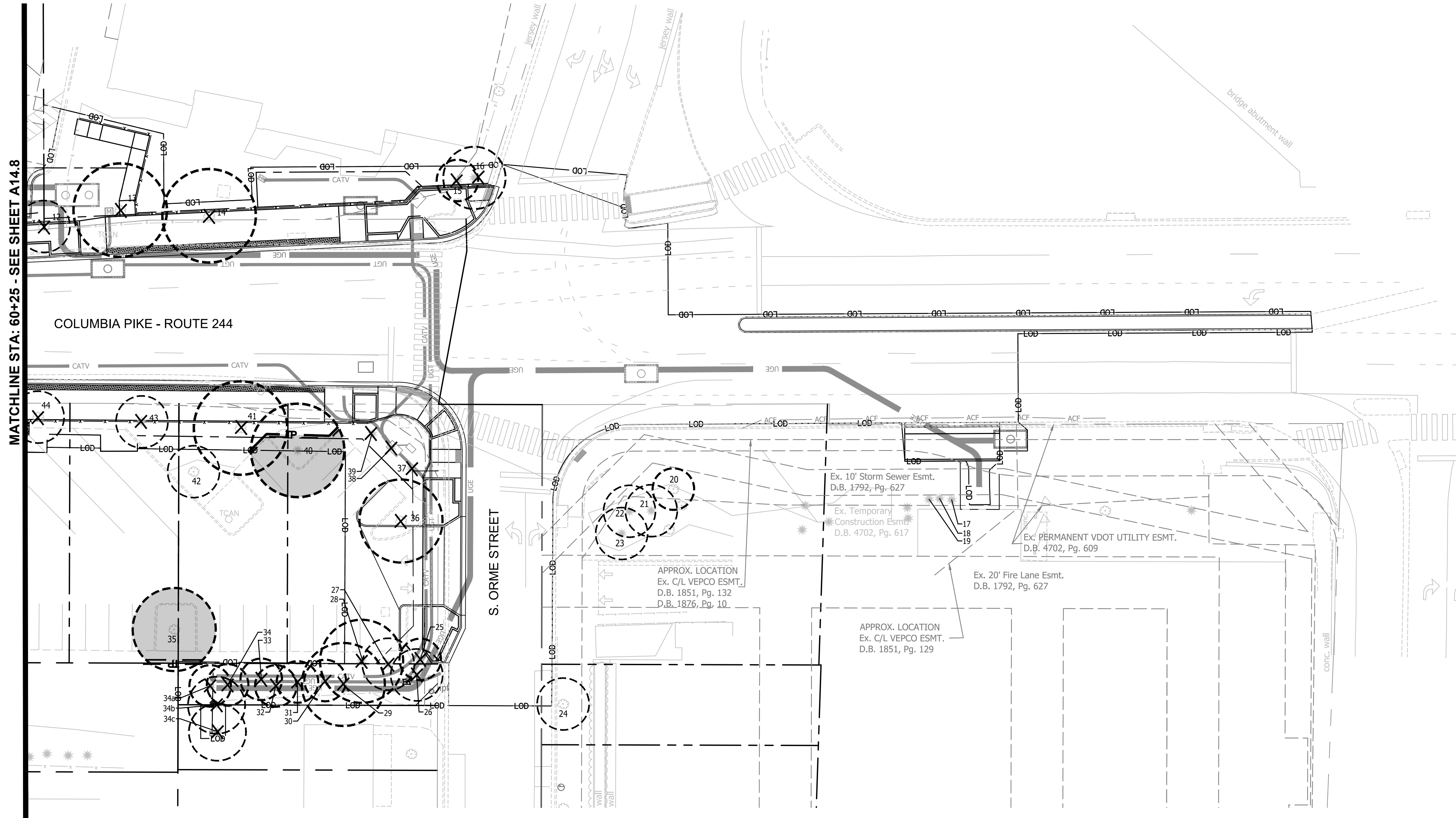
11/23/2021
APPROVAL DATE



- TREE PROTECTION NOTES:**
1. FOR ROOT PRUNING INFORMATION,
SEE DETAIL 2 SHEET A14.10



| | |
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|  ARLINGTON VIRGINIA <i>Scott D. Paya</i> LUIS ARAYA BUREAU CHIEF, DES. DEVELOPMENT SERVICES | DEPARTMENT OF ENVIRONMENTAL SERVICES 11/23/2021 APPROVAL DATE |
|--|--|



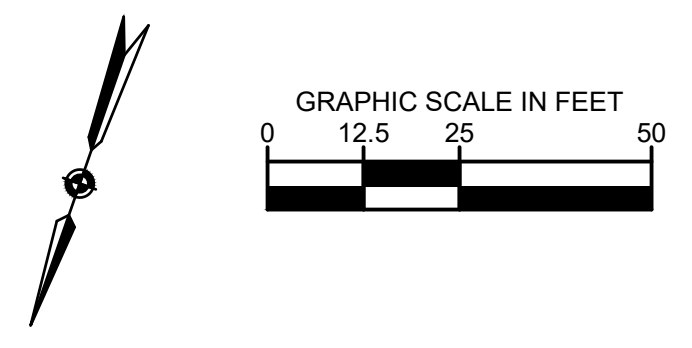
MATCHLINE STA: 60+25 - SEE SHEET A14.8

TREE PROTECTION LEGEND

- EXISTING TREE
- TREE TO BE REMOVED
- CRITICAL ROOT ZONE
- TREE PROTECTION FENCE
- ROOT PRUNING LINE
- LIMITS OF DISTURBANCE

TREE PROTECTION NOTES:

- FOR ROOT PRUNING INFORMATION, SEE DETAIL 2 SHEET A14.10



ARLINGTON VIRGINIA

DEPARTMENT OF ENVIRONMENTAL SERVICES

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Fax: 703-874-1500

Seal

Michael R. Albright
Lic. No. 46643
10/28/2021
PROFESSIONAL ENGINEER

Approvals _____ Date _____

Design Team Engineer Supervisor _____

Construction Management Supervisor _____

Water, Sewer, Streets Bureau Chief _____

Transportation Director _____

Project Manager _____

| Revisions | Date |
|-----------|------|
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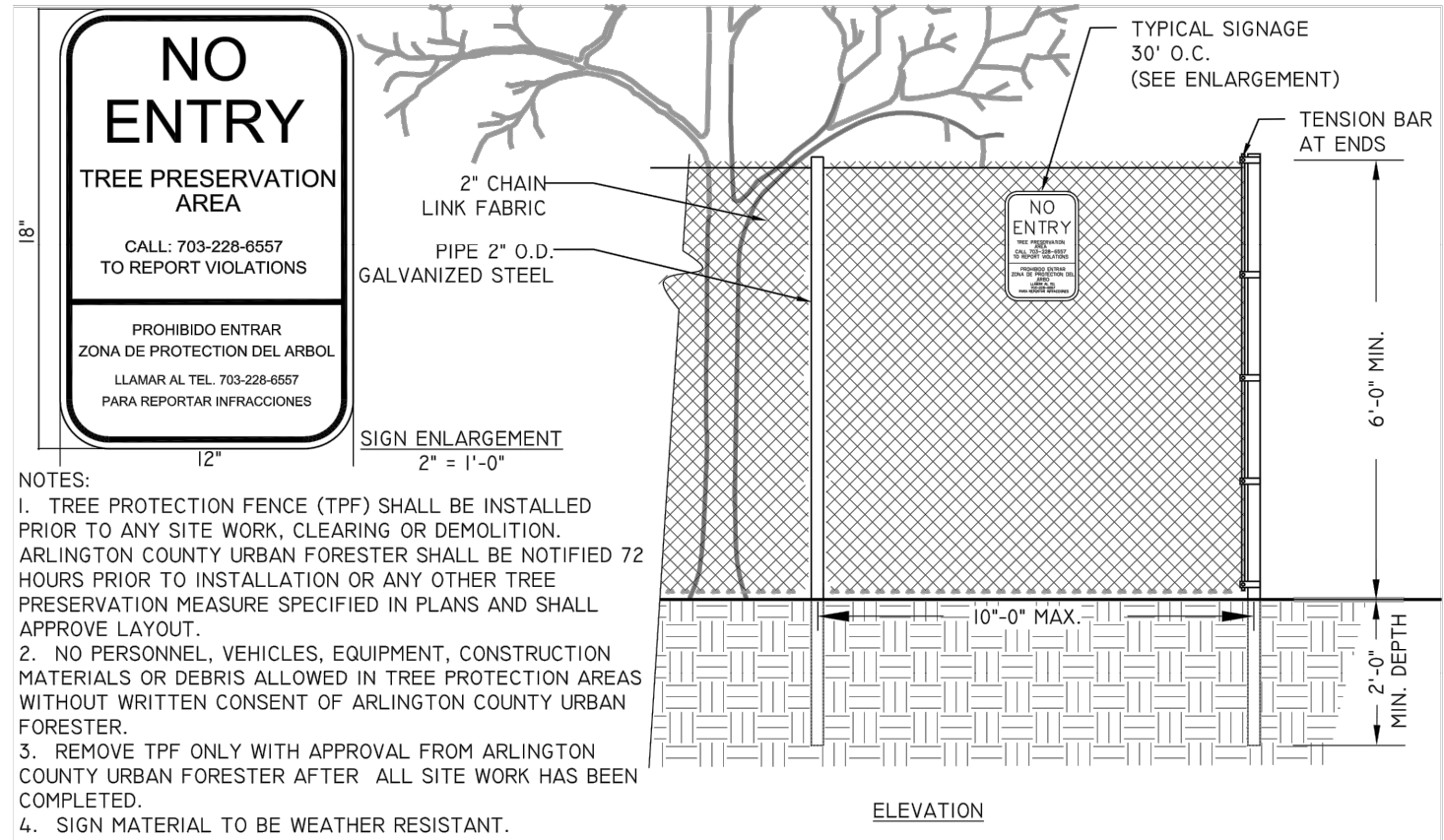
Designed: KWA
Drawn: WDW
Checked: MRA
Miss Utility Transmittal #:

Filename: 010073-A-LAND-TP.dwg
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Plotted: October 28, 2021
Plotted by: Patrick.Husted

ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES

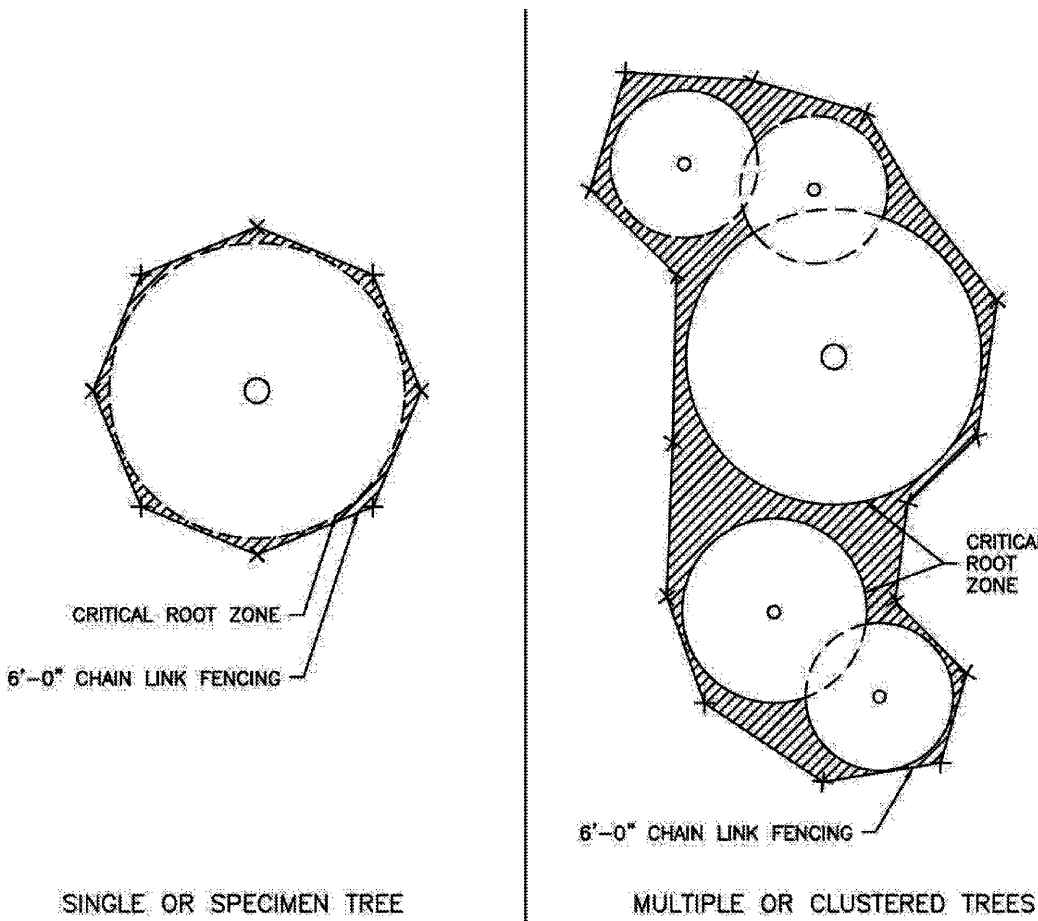
TREE PROTECTION PLAN
COLUMBIA PIKE - ROUTE 244
COLUMBIA PIKE - MULTIMODAL STREET IMPROVEMENTS
SEGMENT A
STA. 60+25 TO STA. 66+00

| | | | |
|--------|-----------------------------|--------|-----------------|
| SCALE: | HOR. 1" = 25' VERT. 1" = 5' | SHEET: | A14.9 of A14.11 |
|--------|-----------------------------|--------|-----------------|



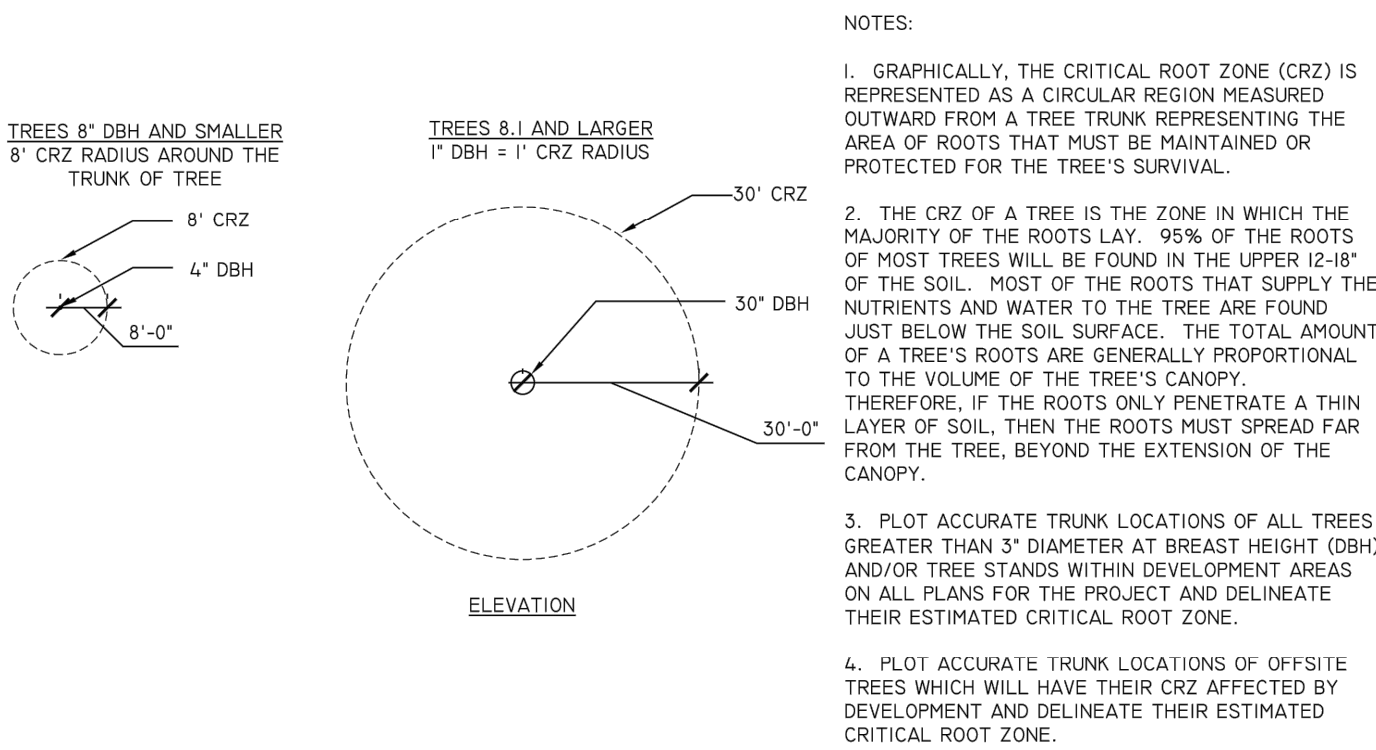
1 6' CHAIN LINK TREE PROTECTION FENCE

NTS



2 ROOT PRUNING

NTS



3 TREE PROTECTION FENCE, PLAN

NTS

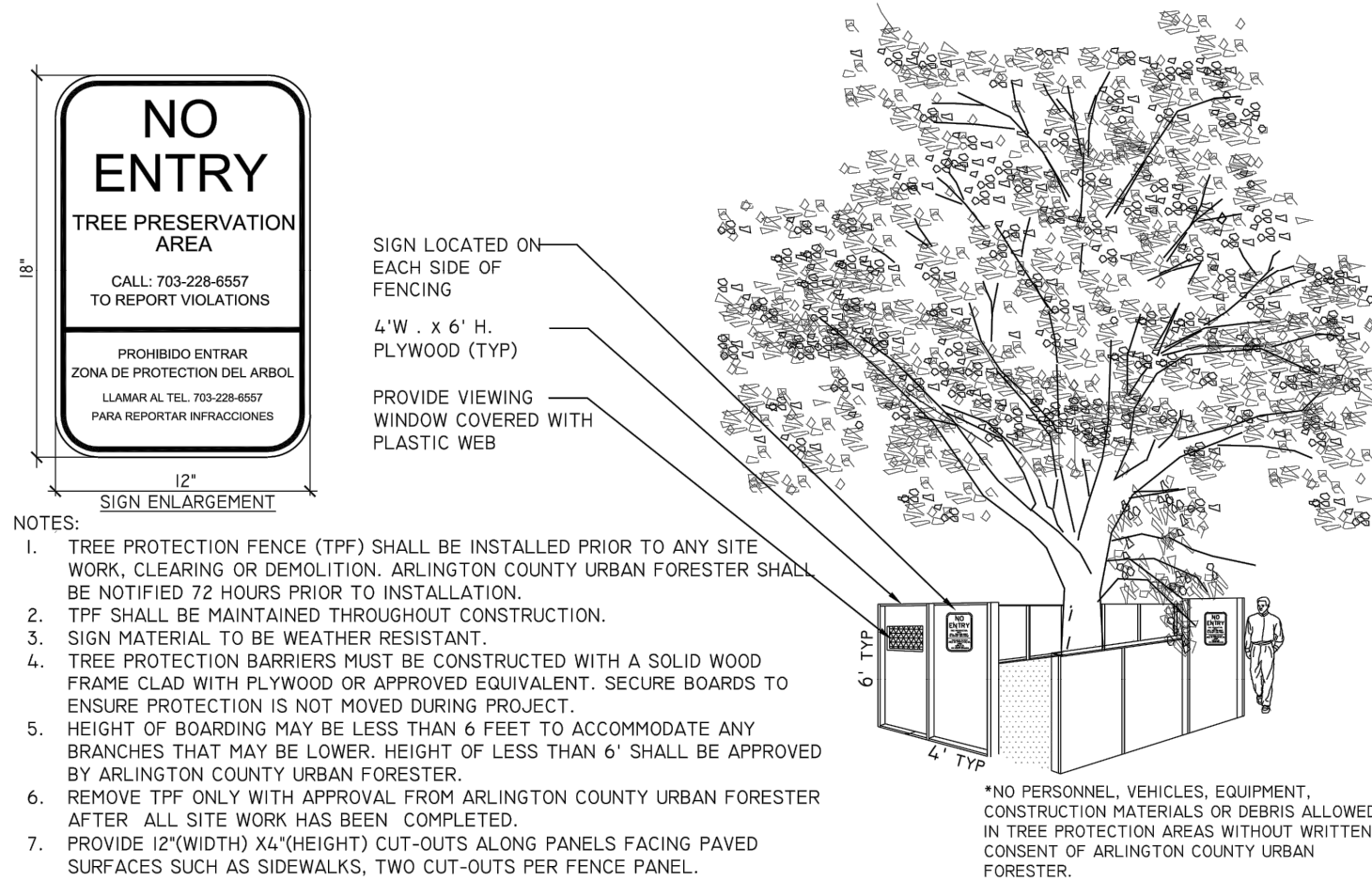
TREE PROTECTION FENCING NOTES

- Tree protection shall be a minimum of 6'-0" high chain link fence mounted on vertical pipes driven 2'-0" into the ground, at approximately 8'-0" to 10'-0" (max.) on center, with no gates.
In areas where super silt fence (SSF) and the tree protection fence run parallel, SSF may be utilized for tree protection purposes upon approval by the County's Urban Forester.
- Tree protection fencing shall be erected at the critical root zone or beyond prior to start of any clearing, grading or other construction activity. Signs stating "No Entry, Tree Protection Area, Call 703-228-6557 to report violations" are to be posted in both English and Spanish. See Reference Detail II.A.5. Tree protection shall not be removed until completion of all construction activity.
- For questions related to tree protection or for field inspection of tree protection, contact the County's Urban Forester at 703-228-6557.

NOTE:
URBAN FORESTER TO BE CALLED AT 703-228-1863, 72 HOURS BEFORE CONSTRUCTION, TO INSPECT TREE PROTECTION.

4 DETERMINING CRITICAL ROOT ZONE

NTS



5 TREE PROTECTION BARRIERS FOR RESTRICTED SPACE & TREE PITS

NTS

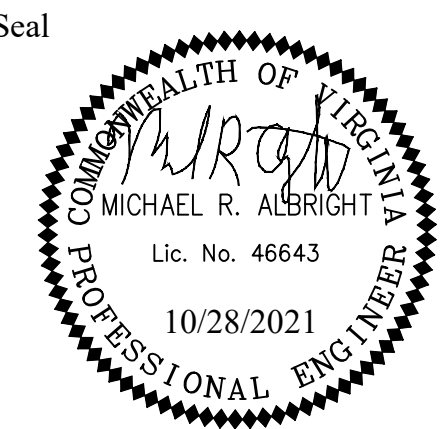
| ARLINGTON COUNTY, VIRGINIA DEPARTMENT OF ENVIRONMENTAL SERVICES | | |
|--|--------------------|-------------------------|
| TREE PROTECTION DETAILS COLUMBIA PIKE - ROUTE 244 COLUMBIA PIKE - MULTIMODAL STREET IMPROVEMENTS SEGMENT A S. OAK ST. TO S. ORME ST. | | |
| SCALE: | HOR. N/A VERT. N/A | SHEET: A14.10 of A14.11 |



DEPARTMENT OF ENVIRONMENTAL SERVICES

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Phone: 703-674-1500
Fax: 703-674-1500



Approvals Date

Design Team Engineer Supervisor

Construction Management Supervisor

Water, Sewer, Streets Bureau Chief

Transportation Director

Project Manager

| Revisions | Date |
|-----------|------|
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Designed: KWA
Drawn: WDW
Checked: MRA
Miss Utility Transmittal #:

Filename: 010073-A-LAND-TP-DTL.dwg
Path: C:\Users\KWA\OneDrive\Documents\010073-A-LAND-TP-DTL.dwg
Plotted: October 28, 2021
Plotted by: Patrick.Husted

| | |
|------------------------------|----|
| Total Required Replacements: | 43 |
|------------------------------|----|

| Approvals | Date |
|-----------|------|
|-----------|------|

Design Team Engineer SupervisorConstruction Management SupervisorWater, Sewer, Streets Bureau ChiefTransportation DirectorProject ManagerRevisions Date

Drawn: WDW

Miss Utility Transmittal #:

Filename: 010073-A-LAND-TP-DTL.dwg
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 7.5 final design of columbia pike segments\segment a\7.5.1 - 75%
 design\plansheets
 Plotted: October 28, 2021
 Plotted by: Patrick.Husted

| | |
|--|--|
|  <p data-bbox="2514 1878 2670 1884">ARLINGTON VIRGINIA</p> <p data-bbox="2493 1880 2685 1884"><i>Scott D. Paya</i></p> <p data-bbox="2493 1882 2685 1884">LURENZA BUREAU CHIEF, DES - DEVELOPMENT SERVICES</p> | <p data-bbox="2694 1868 2878 1876">DEPARTMENT OF ENVIRONMENTAL SERVICES</p> <p data-bbox="2878 1880 2929 1882">11/23/2021</p> <p data-bbox="2850 1882 2929 1884">APPROVAL DATE</p> |
|--|--|

| SUMMARY OF LIGHT POLE DETAILS | | | | | | |
|-------------------------------|---|-----------------|----------|---------------|-------------------------|-------------------|
| LIGHT POLE LABEL | POLE TYPE | POLE FOUNDATION | STATION | OFFSET (FEET) | DIRECTION (NORTH/SOUTH) | POLE DECAL NUMBER |
| LP01 | PROPOSED DOUBLE CARLYLE LED ON NEW LIGHT POLE | SHALLOW DEPTH | 63+17.20 | 32.60 | SOUTH | CBP1501S |
| LP02 | PROPOSED DOUBLE CARLYLE LED ON NEW LIGHT POLE | SHALLOW DEPTH | 62+17.31 | 28.40 | SOUTH | CBP1411S |
| LP03 | PROPOSED DOUBLE CARLYLE LED ON NEW LIGHT POLE | STANDARD DEPTH | 61+49.50 | 26.00 | SOUTH | CBP1409S |
| LP04 | PROPOSED DOUBLE CARLYLE LED ON NEW LIGHT POLE | SHALLOW DEPTH | 60+51.60 | 26.50 | SOUTH | CBP1407S |
| LP05 | PROPOSED DOUBLE CARLYLE LED ON NEW LIGHT POLE | SHALLOW DEPTH | 59+32.44 | 27.50 | SOUTH | CBP1405S |
| LP06 | PROPOSED DOUBLE CARLYLE LED ON NEW LIGHT POLE | SHALLOW DEPTH | 58+68.50 | 26.50 | SOUTH | CBP1403S |
| LP07 | PROPOSED DOUBLE CARLYLE LED ON NEW LIGHT POLE | SHALLOW DEPTH | 57+78.30 | 26.50 | SOUTH | CBP1401S |
| LP08 | PROPOSED DOUBLE CARLYLE LED ON NEW LIGHT POLE | STANDARD DEPTH | 58+20.22 | 26.00 | NORTH | CBP1402S |
| LP09 | PROPOSED DOUBLE CARLYLE LED ON NEW LIGHT POLE | STANDARD DEPTH | 59+06.76 | 26.00 | NORTH | CBP1404S |
| LP10 | PROPOSED DOUBLE CARLYLE LED ON NEW LIGHT POLE | STANDARD DEPTH | 60+14.06 | 26.00 | NORTH | CBP1406S |
| LP11 | PROPOSED DOUBLE CARLYLE LED ON NEW LIGHT POLE | STANDARD DEPTH | 60+96.20 | 26.00 | NORTH | CBP1408S |
| LP12 | PROPOSED DOUBLE CARLYLE LED ON NEW LIGHT POLE | STANDARD DEPTH | 69+51.88 | 26.25 | NORTH | CBP1410S |
| LP13 | PROPOSED DOUBLE CARLYLE LED ON NEW LIGHT POLE | STANDARD DEPTH | 63+07.91 | 28.00 | NORTH | CBP1502S |

- NOTES:
- REFERENCE POINT OF LIGHT POLES IS THE CENTER OF THE POLE.
 - FURNISH AND INSTALL 24" DIAMETER AND 4' DEEP FOUNDATION FOR CARLYLE POLE.
 - CARLYLE POLES SHALL BE BLACK IN COLOR AND 16' TALL. CONTRACTOR SHALL USE BLACK COLOR ATTACHMENTS INCLUDING BLACK COLOR ARM.
 - CONTRACTOR SHALL USE UNION METAL CORP. DESIGN NUMBER N1059-Y1 ORNAMENTAL CAST ALUMINUM BLACK COLOR TWIN LUMINAIRE ARM.
 - CONTRACTOR SHALL USE RELUME LED UA2 LTL NUMBER 17612. ALL NEW CARLYLE LIGHT POLES SHALL BE UNION METAL CORP. DESIGN NUMBER P874-730-B134-Y3.

| LUMINAIRE SCHEDULE | | | | | | | |
|---|-----------------------------|---------|-------|-------------------|-------------|----------------|------|
| Description | Standard # (County Only) | Wattage | CCT | Distribution Type | Pole Height | Color of Poles | LLF |
| Arlington County Standard LED Carlyle Light | 14110-01 | 69 | 4000K | Type V | 16' | Black | 0.90 |

| Columbia Pike Photometric (Illuminance in footcandles) Comparison for Segment A | | | | | | |
|---|--------|-----|----------|-----|---------|-------------------|
| Facility | Target | | Proposed | | | Requirements Met? |
| | Avg | Min | Avg | Min | Avg/Min | |
| Crosswalk | 1.4 | 0.3 | 2.8 | 2.3 | 1.2 | Yes |
| CW_Oak_N | | | 1.6 | 1.2 | 1.3 | Yes |
| CW_Ode_N | | | 2.2 | 2.0 | 1.1 | Yes |
| CW_Orme_E | | | 3.3 | 2.4 | 1.4 | Yes |
| CW_Orme_N | | | 3.9 | 3.7 | 1.1 | Yes |
| CW_Orme_S | | | 2.8 | 2.4 | 1.2 | Yes |
| Intersection | 1.7 | 0.2 | 2.4 | 1.5 | 1.7 | Yes |
| Int_Oak | | | 2.0 | 1.4 | 1.4 | Yes |
| Int_Ode | | | 2.2 | 1.2 | 1.8 | Yes |
| Int_Orme | | | 3.1 | 1.8 | 1.7 | Yes |
| Roadway | 1.4 | 0.2 | 1.9 | 0.8 | 2.8 | Yes |
| RW_East_of_Oak | | | 1.7 | 0.4 | 4.3 | Yes |
| RW_Oak_to_Ode | | | 1.8 | 1.0 | 1.8 | Yes |
| RW_Ode_to_Orme | | | 1.7 | 0.5 | 3.4 | Yes |
| RW_Orme_to_Ramp | | | 2.2 | 1.2 | 1.8 | Yes |
| Sidewalk | 0.8 | 0.2 | 2.1 | 1.1 | 2.8 | Yes |
| SW_1 | | | 1.7 | 0.7 | 2.4 | Yes |
| SW_2 | | | 2.0 | 0.4 | 5.0 | Yes |
| SW_3 | | | 1.7 | 0.8 | 2.1 | Yes |
| SW_4 | | | 1.3 | 0.3 | 4.3 | Yes |
| SW_5 | | | 3.1 | 1.8 | 1.7 | Yes |
| SW_6 | | | 2.9 | 2.7 | 1.1 | Yes |

THE COUNTY WILL USE WIRELESS CONTROL FEATURE OF THE LIGHTING SYSTEM TO MAINTAIN PROPER ILLUMINANCE LEVEL AND UNIFORMITY RATIOS ON THE CORRIDOR. THE WIRELESS CONTROL SYSTEM PROVIDES A CAPABILITY TO THE COUNTY TO ADJUST THE LIGHTING LEVEL OF EACH INDIVIDUAL STREETLIGHT.



DEPARTMENT OF ENVIRONMENTAL SERVICES

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Fax: 703-874-1390

Seal



Approvals Date

Design Team Engineer Supervisor

Construction Management Supervisor

Water, Sewer, Streets Bureau Chief

Transportation Director

Project Manager

Revisions Date

Designed: DL
Drawn: BAA
Checked: MRA
Miss Utility Transmittal #:

Filename: 010073-SEG 0-0.dwg
Path: S:\N/A_R000\0073 columbia pike multimodal production\11/23/2021 11:51:17 PM
Plotted: October 28, 2021
Plotted by: Patrick.Husted

ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES

LIGHTING SUMMARIES
COLUMBIA PIKE - ROUTE 244
COLUMBIA PIKE - MULTIMODAL STREET IMPROVEMENTS
SEGMENT A
S. OAK ST. TO S. ORME ST.

SCALE: HOR. N/A VERT. N/A SHEET: A15.1 of A15.7



DEPARTMENT OF ENVIRONMENTAL SERVICES

11/23/2021
APPROVAL DATE